THE physical therapy REVIEW

36th Annual Conference
American Physical Therapy Association
Hotel Leamington Minneapolis, Minnesota
June 21-26, 1959

Strength Variation Through the Range of Joint Motion
— WILLIAMS and STUTZMAN

Therapeutic Physical Culture in the Complex Treatment of Pneumonia — ORLAVA

Case Reports — MacNAMARRA

Suggestions from the Field — HILL

Proposed Bylaw Admendments

Volume 39, Number 3 **March 1959**

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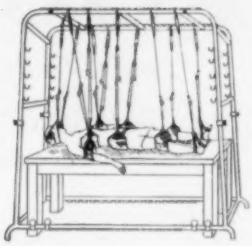

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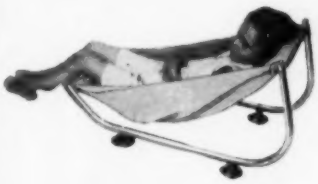

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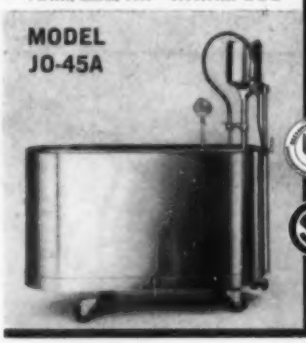

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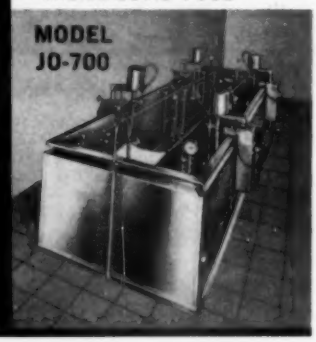

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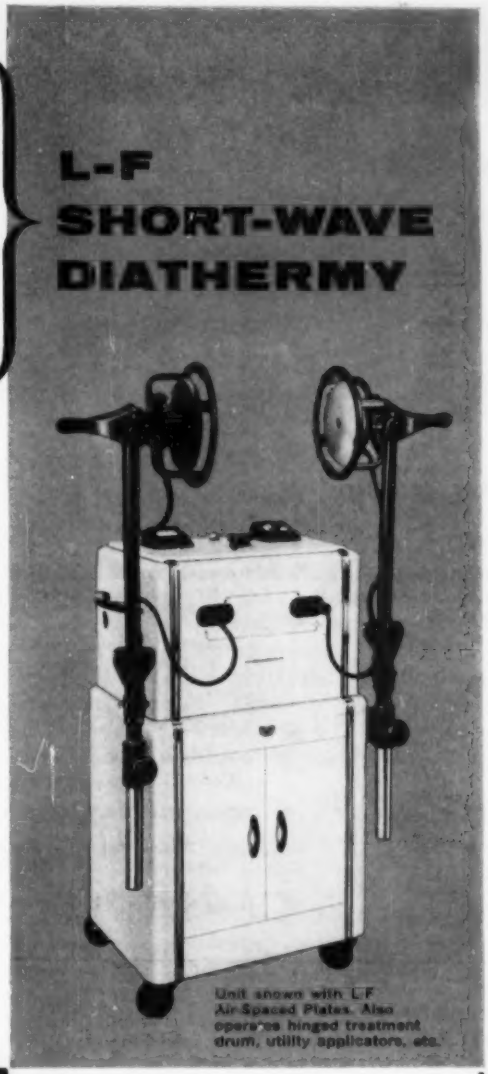

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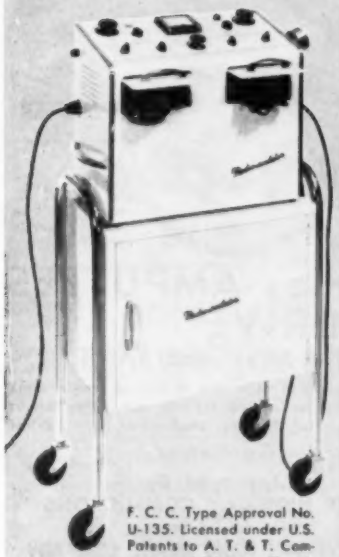

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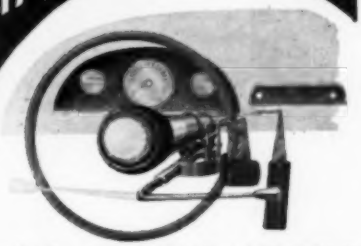

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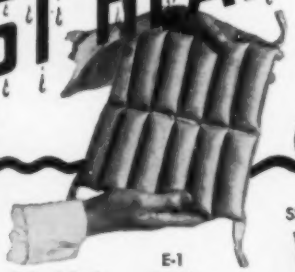

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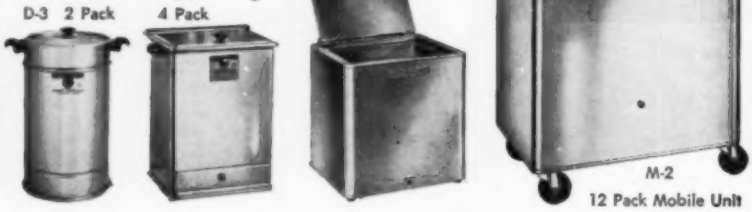

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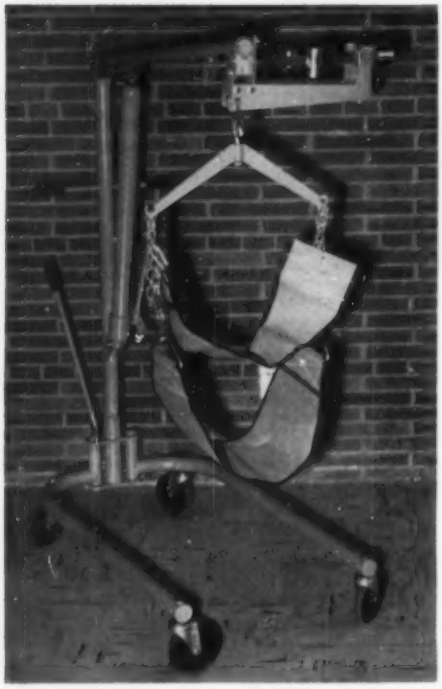

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The Physical Therapy Review

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Strength Variation Through the Range of Joint Motion*

Marian Williams, Ph.D., and Leon Stutzman, M.A.

Physical therapists deal constantly with muscle forces, both normal and abnormal, in people of all ages. But how much do we know about the actual magnitudes of these forces? Should we know, for example, when a 12 year old boy comes in as a patient that his quadriceps normally would be expected to pull about 65 pounds in a right angle position of the knee and 30 pounds with the knee near full extension; and that a few years later, when he has completed his growth, these muscles will pull perhaps 130 pounds at 90 degrees and 75 pounds near full knee extension? We believe that this type of information should be a part of the physical therapist's fundamental knowledge and tests yielding such data should be developed and used in the evaluation of patients.

The present report is based on studies of forces produced by maximum voluntary isometric muscle contraction. Tests have been made on the larger joints of the limbs at intervals through the range of motion. In this work we have had three primary objectives: (1) to develop adequate testing technics; (2) to determine the actual magnitudes of muscle forces as measured by isometric methods; and (3) to investigate how these forces vary in different parts of the range of motion. The data we shall report here are from selected tests of college men and women and of sixth grade children.

Analysis of muscle force values such as these helps to answer some common clinical problems. For example, in manual muscle testing why do we find patients whose hip abductors can hold strongly against resistance at zero degrees yet cannot complete the range of motion? Why do some therapists test the quadriceps with the patient's knee flexed slightly instead of fully extended—are the two test positions equivalent? Does it make any difference in the test force if one therapist grades the elbow or knee flexors with the joint at a right angle while another tests them in full flexion? Is it true that in resistive exercises the greatest resistance should be applied in the middle of the range? (This was an observation made many years ago by Wilhelmine Wright [1] which has been passed on to us in the literature.) Finally, does a "fair" muscle really have 50 per cent of normal strength?

Method

There were approximately 10 subjects in each of the adult groups tested, and 20 in the childrens' group, 10 boys and 10 girls. Forces were measured at 30 degree intervals through the range

Marian Williams, Ph.D., Associate Professor, Division of Physical Therapy; Assistant Professor, Department of Anatomy; Stanford University. Leon Stutzman, Research Assistant (part time), Division of Physical Therapy, Stanford University; Self-employed, Monterey, California

* Presented at the Annual Conference of the American Physical Therapy Association, Seattle, June, 1958.

Figure 1A. Tensiometer sling applied for test of forearm flexors.

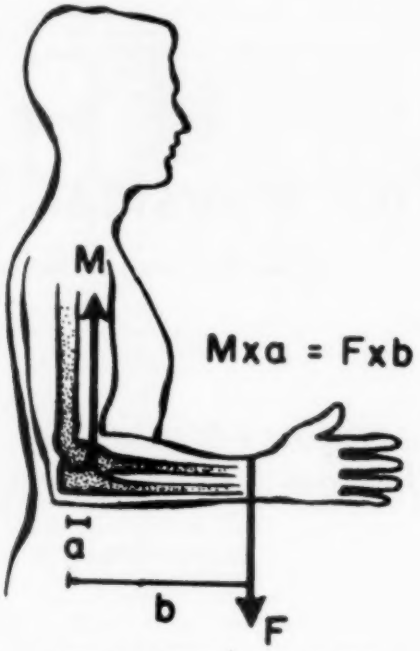

Figure 1B. Principal forces in test: counterclockwise torque, muscle pull (M) times lever arm (a), equals clockwise torque, tensiometer sling (F) times lever arm (b).

of motion of the joint in most cases. A sling attached to a tensiometer was applied to the distal end of the segment. The subject was positioned carefully to allow maximum stabilization of the entire body against the pull of the test sling. Additional fixation was supplied as needed by such devices as webbing straps, footboard, backboard, or shoulder blocks. Requirements for adequate fixation change at each test point in the range of motion. Subjects are very ingenious in devising assistive maneuvers to add to the test force, and the tester must be alert to prevent unwanted movements which would invalidate the test readings.

It is not possible to go into detail regarding positioning and stabilization for each joint mentioned in this report. However, elbow flexion will be described as an example of the problems encountered. Basic considerations in all tests include:

1. *Placement of the test sling.* The sling is applied to the distal end of the segment. It fits well there, is easy to position, and stays in place. If it were in the middle of the segment the reading would be much higher. (Clarke[2] reported two series of tests in which he first put the sling on the part distally and later positioned it nearer the axis of the joint; of course, the later readings were significantly higher.) The placement of the test sling on the segment should always be considered in interpreting the magnitudes of test data found in the literature.

2. *Stabilization of the entire body.* The test sling is anchored externally so that a maximum muscle contraction by the subject against the sling creates an external pull on the body. In the case of the elbow flexors as shown in figure 1 there is a downward pull of 86 pounds applied to the rigid forearm. This means that the ground must push upward with the same amount of force to maintain equilibrium. When the subject is lying on a table for this test, friction between his body and the table top helps to keep him in place, but he also requires a bar under his feet to prevent his body from being pulled downward.

3. *Prevention of assistive movements.* In the elbow flexion test shown in figure 1 two assistive movements must be prevented, hiking the shoul-

der and raising the body by plantar flexion. One might think that if the elbow flexors were exerting maximum voluntary tension, elevation of the shoulder would not help. However, tests have shown that the force exerted when the muscles contract against fixed resistance is considerably less than can be exerted when external force is applied as in a "break" test and the contracting muscles are forcibly elongated;[3, 4] therefore, hiking the shoulder or raising the entire body after the elbow flexors have contracted maximally will raise the elbow flexion test force. To prevent these assistive movements the test is given with the subject supine. A shoulder block is used and a heel bar prevents the subject from moving downward yet does not allow plantar flexion.

Equipment used for the college age groups has been described by Beasley.[5] For the children's tests a simplified test rack and tensiometer were developed (Fig. 2). The rack is constructed of 1 inch steel pipe and can be dismantled for ease in moving. The ring-type tensiometer† is small and light in weight. Movement of the ring is negligible, permitting a truly isometric test recording through 0-200 pounds.

Figure 2. Position and stabilization used in quadriceps test. Test frame and table are firmly braced.

FINDINGS AND INTERPRETATION

Figure 1B shows diagramatically the principal forces involved in the tests: (1) the tensiometer sling on the part and (2) the muscle group involved. The force of the muscles cannot be measured directly since they are attached internally; thus their tension must be tested through their lever system. Rotational effect is measured as a product of *force* and *distance* and is termed rotational moment or *torque*. (A series of isometric muscle contraction forces, measured at intervals through the joint range and plotted on a graph, yield what has been termed the "joint torque curve.") Here the muscle force times its very short lever arm (the perpendicular distance from the action line of the force to the axis of rotation at the elbow) equals the tensiometer force reading times the lever arm of the test sling (wrist to elbow axis). In the simplified diagram, if the ratio of the two distances concerned is as 1:10, then the ratio of the two forces is as 10:1, or for an 86 pound pull on the tensiometer, the muscles are actually exerting a tension of 860 pounds. This is true as long as the forces are applied to the forearm at a right angle, but of course the angle of application of the muscle force constantly changes as the position of the part changes so that much of the rotational effect is lost. On the other hand, the test sling is always applied at a right angle to the segment, as this angle can be controlled. What we are testing, then, is the torque or rotational effect of the elbow flexors acting through the forearm, and the tensiometer reading should not be mistaken for the actual muscle tension, which is much greater.

Two factors primarily affect the joint torque curve: (1) the lever arm of the muscles pulling on the segment, already discussed, and (2) the length of the muscles at the moment of contraction. As shown by the classic length-tension curve, a muscle in a shortened state can exert very little force when it is stimulated to contract. As it is pulled out and made longer, the tension it can exert upon contracting increases more and more until it reaches a maximum at its so-called "rest length." Beyond this point, further lengthening brings about passive tension of the connective tissue elements in the muscle which can be measured externally and the *active* contractile force exerted by the muscle fibers begins to decline.[6]

An interesting point is that these two basic factors influencing joint torque tend to offset each other. As the joint moves through its arc the

† Designed and supplied by Milton Lebow, Department of Engineering Mechanics, Wayne State University.

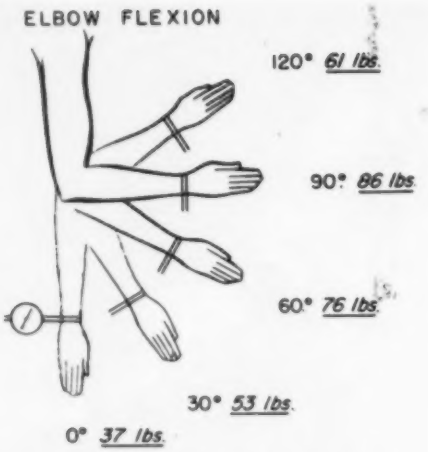

Figure 3A. Maximum isometric force exerted at 30 degree intervals through the range of elbow flexion (college men).

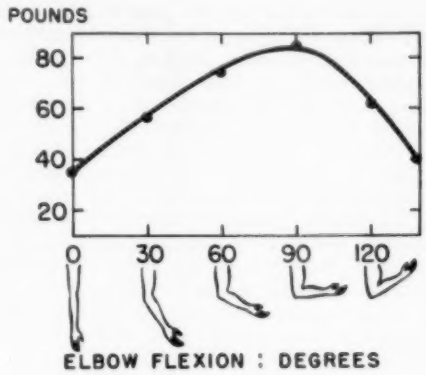

Figure 3B. "Isometric joint torque curve" for elbow flexion (college men).

"prime mover" muscles become shorter, thereby declining in their ability to exert tension; at the same time the angle of application of the muscle force or forces usually becomes more advantageous. Inman and Ralston [7] have described this compensatory phenomenon as follows:

> An interesting observation on the human skeletal lever system is that by maximum muscle effort, relatively constant moments are produced against resistance no matter what the angular position of the articulating segment. This is surprising since the lever arms through which the muscles act vary continuously with changing position of the part. To produce such an effect necessitates a varying force to compensate for the varying lever arm, and such a mechanism is actually found in the muscle itself. In the body, therefore, is a reciprocating arrangement of muscles and levers by which changing lengths of lever arms are offset by changes in the ability of the muscles to develop torques about the joints. The nicety of the compensatory relationship between the geometric arrangement of the lever and the physiology of muscle contraction has not been fully appreciated.

This is a good description of the compensatory interaction of the length-tension and the leverage factors in body movement; however, tests show that joint torques are far from constant at various points in the arc of movement.

Elbow flexion

The curve of elbow flexion force (Fig. 3A, B), plotted here to follow the movement from the anatomical position through the arc of motion, follows closely the sine of the angle of application of the major muscle pull (biceps and brachialis). The test force is maximal at 90 degrees and drops off in either direction away from this point. The isometric force at either end of the curve is less than half that in midrange. (This pattern is not typical of all curves by any means, including that of knee flexion.) In manual muscle testing if one therapist tests the elbow flexors with the elbow at a right angle, he should expect twice as much force as another therapist who gives the test at the end of the range in full flexion. The best position for exerting force with the elbow flexors, as in carrying a heavy object or lifting, is with the elbow angle near 90 degrees.

Knee extension.

This and subsequent curves are plotted from the shortened to the lengthened position of the prime movers, as the length-tension factor has been found to be far more important than muscle lever length. Tests performed with the muscles in the shortened position yield the smallest forces in spite of the fact that the muscle lever arm may be most favorable at this point. The torque curve of the quadriceps (Fig. 4) is characterized by a steep slope. (Although the mean curve of the group tested drops from 60 to 90 degrees, several individuals in the group had higher force readings at the 90 degree position of the joint.) There are some interesting clinical implications in the force curve of the quadriceps. The conventional manual muscle tests are done with the knee in full extension where the muscles are maximally shortened. Here the tension which can be exerted is small, yet sometimes the patient demonstrates surprising ability to hold the knee out straight against manual resistance. A previous study (Kennedy [8]) reported that patients tested with a

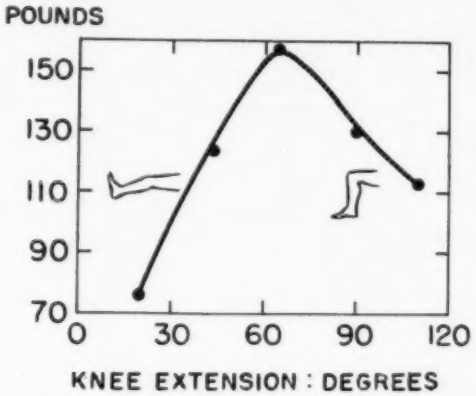

Figure 4. Knee extension (college men).

spring scale were found to have greater knee extension force in full extension than with the knee at a right angle. The answer to this apparent contradiction probably lies in the rotary locking mechanism at the knee joint. The final "screw-home" movement which stabilizes the knee in full extension resists flexion, as do all the muscles crossing the joint which together in this position have a powerful stabilizing action. The question here is: do we wish to test the ability of the stabilized, fully extended knee to remain locked or the force of the quadriceps muscle per se? If the latter, then we should bend the joint a few degrees and perform the test with the knee out of the locked position.

In progressive resistance exercise when the patient sits on the edge of the plinth and we hang a boot and weights on his foot, the load is minimal at the beginning of the movement and increases to maximum as the leg is raised to a horizontal position. Since this is exactly contrary to the quadriceps' ability to exert force, several people have designed equipment which allows the exercise load to decrease as the muscle capability decreases, toward full extension. (Storms,[9] Allis,[10] Noland and Kuckhoff [11]).

Knee flexion.

Figure 5 shows the effect of the hip position on knee flexion force. In the lower curve the subjects were prone-lying on the testing table; the force was found to drop steadily as the muscles shortened from full extension to flexion. When the hip was flexed over the end of the table (upper curve), and the hamstrings were lengthened at the hip, two changes resulted: the mag-

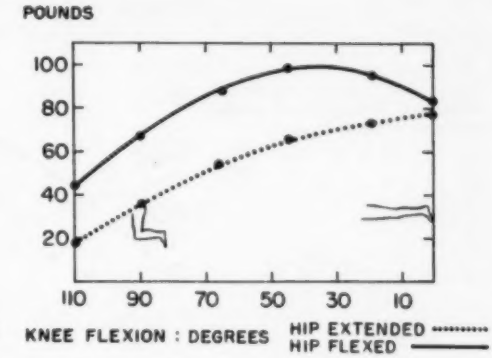

Figure 5. Knee flexion. Effect of change of hip position on knee flexion force (college men).

nitudes of the flexion forces increased and the shape of the curve changed. The decrease in force was 55 pounds from high to low points, while in the prone-lying test the total drop was 69 pounds. These curves differ from the elbow flexion torque curve which rises steeply to around 80 or 90 degrees and then falls off. In the case of knee flexion, contrary to elbow flexion, the force is relatively small at the right angle position of the joint; here the length-tension factor seems to be very much more important than the factor of lever length of the muscles.

Shoulder flexion.

The isometric contraction force drops from the lengthened to the shortened position of the muscles, as is typical of most joint torque curves. Here, however, there is a relative plateau around 60 degrees (Fig. 6). If we give a manual muscle

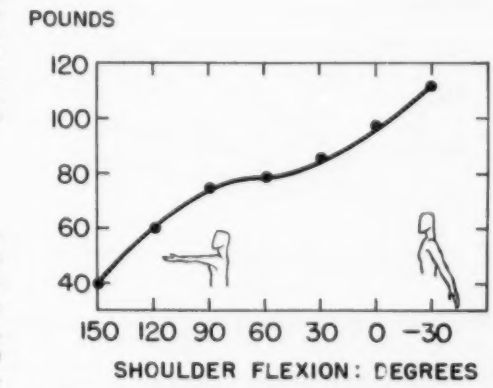

Figure 6. Shoulder flexion (college men).

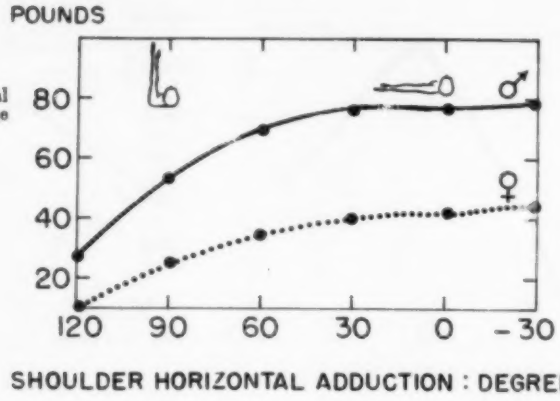

Figure 7. Shoulder horizontal adduction; comparison of college men and women.

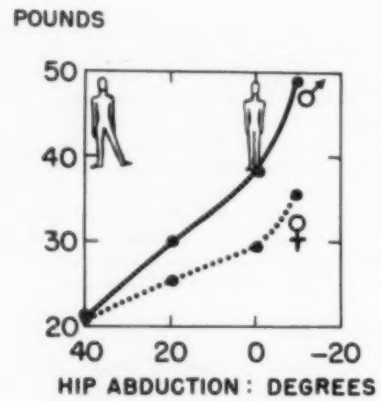

Figure 8. Hip adduction; comparison of college men and women.

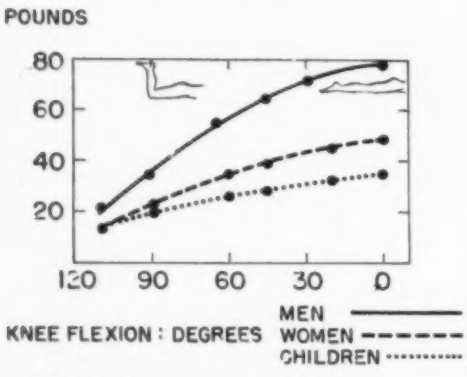

Figure 9. Knee flexion; comparison of men, women, and children.

test for shoulder flexion at 90 degrees we are closer to the bottom of the curve than to the top.

Plateaus were found also in the torque curves of the shoulder extensors (not illustrated) and horizontal adductors (Fig. 7). The force of shoulder horizontal adduction remains about the same from 30 degrees behind the frontal plane through a range of from 30 to 60 degrees anterior to this plane. Beyond this point it drops sharply, so that in a manual muscle test performed with the patient's arm across his chest relatively little force should be expected.

Comparison of men, women and children's groups.‡ Force curves of college women and of sixth grade children were compared with those of college men. The same methods of positioning and stabilization were used in each series. The magnitudes of the forces varied in the three groups, as would be expected, but the patterns of the curves were similar. In hip abduction (Fig. 8), for example, the curves for men and women converge toward the end of the range of motion (where the manual muscle test is done, incidentally). The abductor curve helps to explain our dilemma when we have a patient with weak hip abductors who can hold with considerable force at zero degrees but who cannot complete the range of motion against gravity. It is a problem to know what grade to give such patients. The function of the abductor muscles in walking, which is lateral support of the pelvis during early stance, involves the high end of the curve. Furthermore in walking "break" force is involved as gravity brings the pelvis down on

‡ Tests of college women were made by Jean Thibaut, former N.F.I.P. Teaching Fellow, Stanford University; now Instructor in Physical Therapy, Medical College of Virginia. Tests of children were made by Jean L. Reiels, Research Assistant, Division of Physical Therapy, Stanford University.

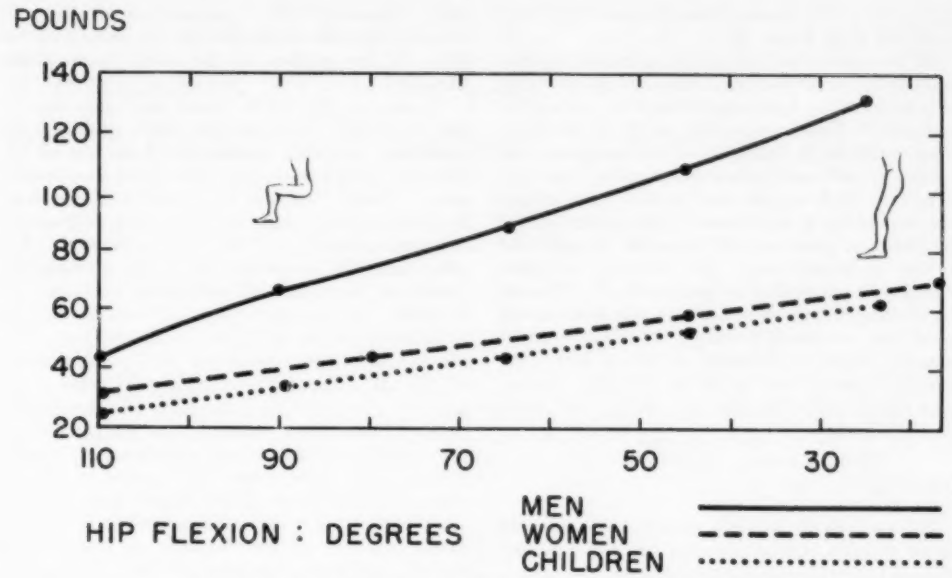

Figure 10. Hip flexion; comparison of men, women and children.

the unsupported side against the contraction of the abductors on the stance side.

Although in the children's group the boys were stronger than the girls, the difference in strength was not statistically significant at any point; the figures were combined for purposes of this report. It is interesting to note that the greatest differences in strength in men, women and children, as seen in figures 9 and 10, are at the strongest part of the joint range and the curves converge toward the point at which the muscles are shortest. The difference in magnitude of the forces between women and children is much less than between men and women. This was generally true in the groups tested.

Comparison between "agonist - antagonist" groups. Another way of looking at these data is in terms of the so-called "balance of pull" about a joint. A great deal has been written about a weakened muscle group being overpulled by a stronger group. What are the normal maximal forces available on either side of the joint in a given plane? The torque curves indicate that this strength ratio depends on the position of the joint. In the case of shoulder flexion and extension (Fig. 11) the point of equal force in the two groups lies between the 60 and 90 degree test points. At − 30 degrees, the flexors are lengthened and the extensors shortened, while the opposite is true at 150 degrees. Knee flexion strength is considerably less than knee extension strength. Here the curves cross at about 30 degrees of flexion. From 60 degrees on to full knee flexion both groups lose force at about the same rate. The elbow flexion and extension curves approach each other when the elbow is straight. As the joint flexes the triceps curve remains

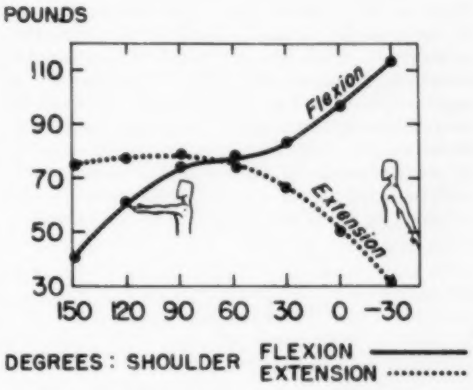

Figure 11. Comparison of agonist-antagonist muscle groups (college men).

rather flat while flexion force climbs steeply to a peak and then drops off.

Of the curves studied, most agonist-antagonist pairs were found to cross somewhere in the range of joint motion. An exception was hip abduction-adduction. These tests were given in the side-lying position in order to obtain adequate stabilization and even when the figures were corrected for limb weight (subtracted from adduction and added to abduction) the highest value of the abductor force was still below the lowest value of the adductor force. The anatomy of these muscles is interesting in this relation. The adductor muscle mass is bulky and long-fibered; the adductors, on the other hand, are relatively short muscles. Much of the work of lateral pelvic stabilization performed by the abductors is powerfully supplemented by the very strong and tough iliotibial band.

Discussion

The concept of strength variation through the range of joint motion presents a broader picture of muscle performance than is generally appreciated clinically. Strength relationships often quoted in the anatomical literature which are based on measurements of cross-sectional area of the muscle are less meaningful than experimental observations of joint torque in living subjects. The rotational effect of a muscle depends not only on its cross-sectional area but on its length at the time of contraction and the angle of force application. Most isometric joint torque curves studied show a continuous drop in strength from the elongated position of the prime movers through their range of motion. Among the exceptions are elbow flexion, knee extension, and shoulder adduction. Plateaus or levelling off of force variation occur in some of the curves, notably in arm elevation movements. Here the scapula is interposed between the humerus and axial skeleton and by its rotation serves to retain length in the contracting scapulohumeral muscles. The various curve patterns suggest that in manual resistive exercise pressure should not always be increased in the middle third of the range; in fact this pattern of strength variation appears to be the exception rather than the rule. Comparisons of strength between agonist-antagonist groups should be related to the position of the joint about which they act.

A question should be raised regarding the extent to which force measurements obtained by maximum isometric contraction tests can be applied to ordinary activity. Functional movements are frequently ballistic in nature, and the relationship of joint torque measurements to dynamic or phasic activity needs further exploration. Another area for investigation is the possible relation of isometric strength and variation of strength through the range of motion to the endurance and coordination of the subject. The conditions of the tensiometer tests parallel those of clinical manual muscle testing in many ways and this type of data is perhaps best applicable here. Observations indicate that no precise interpretation of any number system of muscle grading should be made until norms are available. Not only do force values vary among muscle groups but the rotational effect of a given group depends on the position of the joint it moves. Extensive fundamental data of this nature would be a step toward more precision in clinical evaluation of disability in cases where this type of measurement is appropriate.

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Therapeutic Physical Culture in the Complex Treatment of Pneumonia

O. E. Orlava

EDITOR'S NOTE: The *Review* presents the translation of O. E. Orlava's article as prepared by Elizabeth Yoakum, Physical Therapist, Kentucky Crippled Children's Commission. Mrs. Yoakum has been an active member of the Association since 1944 when she received the certificate in physical therapy from Stanford University. Currently studying the Russian language, Mrs. Yoakum volunteered to translate an article from the Russian journal when she learned that we had tried in vain to obtain abstracts of the various papers. It is hoped that readers will agree that Mrs. Yoakum has made a contribution to our understanding of Russian methods and that she is to be commended upon the results of her efforts.

Readers of the *Review* will be interested to know that this Russian journal is received regularly by the Association on an exchange basis. It was not necessary to obtain approval of the translation or permission to publish since Russia has never become a signatory to the International Copyright Convention.

Pneumonia is a general illness of the organism with local inflammatory focus in the lung tissue and, as a rule, with a disturbance of function of a series of organs and systems owing to their close physiological interconnection. Because of this, the treatment of pneumonia must be complex: etiotropic, pathogenic, and symptomatic. Treatment of one cause alone cannot eliminate all of the pathological processes taking place in the pneumonic patient. Sharply reducing the fatality, decreasing the number of complications, bringing about a quick reduction of temperature, and a lessening of the effects of intoxication by sulfa and penicillin therapy, according to the opinion of the majority of authors, does not show a direct influence on the reverse development of the inflammatory symptoms in the lungs and does not accelerate their resorption (P. K. Lipatova, E. B. Lixier, S. M. Melkik, E. B. Shulutko, M. P. Kogalovskaya, K. S. Rubsova, A. E. Emelyanov, V. N. Fadava and others). Another extremely important question arises before the physician during the period of the patient's convalescence—that of restoring the functional completeness of the various systems of the organism affected in the course of pneumonia. From what has been said, the responsibility of the doctor is clearly that of selecting the types of treatment in the period of convalescence which frequently determine the ultimate destiny of the patient.

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The complex treatment of pneumonia requires the use of vigorous functional therapy such as therapeutic physical culture whereby the employment of various exercises is able to influence (1) the regulation of the processes of excitation and inhibition in the cortex of the cephalic brain; (2) the restoration of the correct functioning of the nerve regulator mechanisms; (3) the improvement and reconditioning of the disturbed functions of the vascular and respiratory systems (increase of mobility of the thoracic cage, diaphragm, and ventilation of the lungs, elimination of tachycardia and hypotonia); (4) the quicker and more complete resorption of the inflammatory processes in the lungs and pleura, forestalling the development of complications in the adaptation of the entire organism and in particular of the respiratory apparatus and of the circulatory system to the regular and the occupational loads, i.e. to lead to the restoration of the functional capacity of the basic systems of the organism (V. P. Petrov, L. S. Gershberg, E. A. Kosirsky, V. N. Moshkov, E. M. Sarkizov-Serazini, A. A. Leporsky).

Much of the work about the employment of therapeutic physical culture in the complex treatment of pulmonary illness is dedicated to the treatment of chronic illness of the respiratory apparatus, and the literature about the use of these methods of treatment for acute inflammation of the lungs is scant. The authors of these works (L. S. Gershberg, V. S. Lebadeva, B. S. Bwichkova, S. G. Rompan, A. B. Solovonov and

TABLE I

Gravity of the Course and Localization of the Process	Number of Patients			
	Primary Group		*Control Group*	
	Croupous Pneumonia	Bronchial Pneumonia	Croupous Pneumonia	Bronchial Pneumonia
Serious	30	9	4	1
Of average seriousness	35	6	11	4
Right side	38	5	10	3
Left side	26	6	5	
Both sides	2	4		2

A. V. Shkorbatova; V. L. Stepanov; Kohlrausch, Leube, Kruger) report the best results obtained in the complex treatment of pneumonia from the employment of modalities of therapeutic physical culture in comparison with medical treatment alone.

Method

We observed 100 patients ill of pneumonia: to 80 patients (65 with croupous pneumonia and 15 with bronchial pneumonia) was prescribed therapeutic physical culture—on the second to third day after a diminution of temperature, or somewhat later depending on the condition of the patients, and 20 patients (15 with croupous pneumonia and 5 with bronchial pneumonia) composed the control group.

In the primary group there were 50 men and 30 women, in the control group—8 men and 12 women. As to age, in the primary group there were 47 patients 29 years of age or less, and 24 persons over 40; the patients in the control group were older—only 4 persons 28 years of age or less and 12 persons over 40. The seriousness of the course and the localization of the process are presented in table I.

Of the 65 patients with croupous pneumonia of the primary group, the inflammatory process of 62 patients affected one lobe of the lung, for the most part the lower, one had 2 lobes affected and 2 of the patients—the entire lung. In the control group all 15 of the croupous pneumonia patients had the inflammatory process affecting one lobe of the lung.

Therapeutic physical culture was administered in the form of hygienic and therapeutic gymnastics. The series on the first day was carried out in the patient's ward, but on the following day in the department of therapeutic physical culture with a gradual increase in work load. The series of therapeutic gymnastics which follow are an approximate outline for one or another of the periods of illness and can be changed a little, shortened, or inversely supplemented with new exercises in relation to the status of the patient and the extent of his physical training.

The *first* series of physical exercises was administered to the patient in bed during the first 2 or 3 days and its objectives were to revive the metabolism of the organism, to establish better conditions for circulation, and to lift the mood of the patient. In this period we did not employ exercises with deep, forced respiration, taking into consideration the pleuritic pain and the possibility of injury to the lung tissue which had lost its elasticity due to the inflammatory process.

In the *second* period these problems were before us—increasing circulation of the blood and lymph, increasing pulmonary ventilation and gaseous exchange, inhibiting the formation of pleuritic adhesions, assisting in the improvement of the disturbed function of the respiratory and cardiovascular systems. During this period along with the general strengthening exercises we also employed breathing exercises with deep respiration; in addition, in conformity with the localization of the inflammatory process, we strove for the maximum possible expansion of various sections of the lungs which was attained by the use of appropriate initial positions or movements of the arms. For example, in the presence of disease of the lower sections of the lungs, breathing exercises were adapted accompanied by a sideways parting of the arms and lifting them up; but with the presence of the localization process in the upper sections, the initial position—hands on belt—was adopted. For the prevention of the formation of pleuritic adhesions we used trunk bending exercises to the sound side with the simultaneous raising upward of the opposite arm.

In the *third* period in the presence of a satisfactory status of the patient (an absence in the majority of cases of pathological physical findings in the lungs, when the patients are already sufficiently strong, and when they have learned to correctly control their own breathing), the series of physical exercises is expanded and made more complicated. General strengthening and breathing exercises are introduced, tempo is accelerated, the length of time is increased, and apparatus (wands, clubs, medicine balls) is used to strengthen muscles of the shoulder girdle and

trunk. In this period special breathing exercises are employed which are aimed at the prevention of adhesive processes. The aim of therapeutic gymnastics in this period is the restoration of functional completeness and the training of both the entire organism and of its various systems—respiratory and cardiovascular, adaptation of the patient to his future (regular and work) load, and preparation of the patient for release from the hospital.

The method of treatment by gymnastics in the presence of focal pneumonia is essentially not different from that with croupous pneumonia; usually a more satisfactory condition of these patients was required than among patients with croupous pneumonia before beginning the use of therapeutic gymnastics employing a heavy load.

Therapeutic gymnastics to patients with croupous pneumonia were initiated on the third to fifteenth day of illness (the average on the eighth day) and to patients with bronchial pneumonia, on the fourth to sixteenth day (the average on the tenth day). The number of times for the patients with croupous pneumonia was from 4-21 (average 9) and for the patients with bronchial pneumonia from 5-15 (average 8.5).

OBSERVATIONS AND RESULTS

Nearly all of the patients at the beginning of the course of exercises had reported pain in the chest with breathing, a cough, a feeling of general weakness, and decrease of appetite; in addition, a group of patients complained of sleeplessness. The physical findings attested to the presence of inflammatory symptoms in the lung tissue. A majority of patients had recorded changes in the condition of the respiratory and cardiovascular systems: (1) limitation of excursion of the rib cage; (2) decrease in vital capacity of the lungs; fast, shallow breathing, as a result of which appeared a deterioration of the ventilating capacity of the lungs. A reduction of gaseous exchange was indicated not only by low, absolute figures of absorption of oxygen and liberation of carbon dioxide, but also by a considerable deviation from the normal numbers of respiratory equivalent, the coefficient of consumption of oxygen, the presence of hypotonia, and in a number of patients—tachycardia.

The positive effect of the use of therapeutic gymnastics was evidenced in the improvement, both of the general condition of the patient as well as by the already pointed out indices of superficial breathing and hemodynamics. After the commencement of the series (usually in the course of the first days) there was an improvement in the state of well-being, the feeling of general weakness vanished, pain in the chest and coughing ceased, a better appetite and sleep emerged, and the mood was improved: objective findings in the lungs indicated resorption of the focii of pneumonia.

All patients of the primary group were discharged from the hospital in good condition without any complaints. At the time of discharge 74 of the patients out of 80 having pathological findings in the lungs—had none identified, 2 of the patients consequently examined for pneumonic focal point had only shallow breathing, 3 possessed a site of pulmonary sounds with a box-tone and labored breathing, and 3 of the patients had only a dry hoarseness consequently accompanied by emphysema.

In the control group of 20 patients, 9 (6 with croupous pneumonia and 3 with bronchial pneumonia) were discharged from the hospital in satisfactory condition; the other 11 patients presented complaints of pain in the chest with breathing, a cough either dry or with mucus, general weakness, and decrease in appetite. Objectively only 3 patients (2 with croupous pneumonia and 1 with bronchial pneumonia) had not revealed pathological changes in the lungs; but in 17 of the patients at discharge there was a dullness of percussion sounds, shallow breathing, moist and dry coughs, labored breathing, friction noise of the pleura, etc., indicating the presence of residual symptoms following the inflammatory focii in the lung tissue.

Roentgenologic Findings

With roentgenologic studies in the primary group, complete resorption of the process was noted for 39 of the 65 patients with croupous pneumonia (that is more than half of the cases). Of 30 patients at discharge residual symptoms in the form of decreased transparency of the lung tissue in the area of the former pneumonic focal point were present in 17; insignificant lagging of the diaphragm on the affected side with breathing was present in 6; only 7 of the patients at discharge had remaining a small region of infiltration in the area of the former inflammatory focus. Of the patients with bronchial pneumonia, roentgenologically clear lung fields were established for 13 out of 15 patients; only 1 had remaining diaphragmatic adhesions, and 1 had a small region of infiltration.

In the control group of patients with croupous pneumonia complete resorption of the inflammatory process at discharge was observed in only 5 out of 15 patients. In the rest of the patients residual symptoms were evidenced by decrease of transparency of the lung tissue, of thickened

TABLE II

HOSPITAL STAY AND DURATION OF INCAPACITY

	Investigation Group				*Control Group*			
	Croupous Pneumonia		Bronchial Pneumonia		Croupous Pneumonia		Bronchial Pneumonia	
DURATION	Range	Average	Range	Average	Range	Average	Range	Average
Days in hospital, including:	7–29	13.0	7–22	11.2	4–32	13.7	8–18	14.0
In the presence of a serious course of illness	.....	16.2	.....	12.9	.....	19.4	.....	16.0
Leave of absence after discharge	5–23	11.0	5–25	12.3	5–23	13.0	9–19	13.0
Average number of days incapacitated	15–44	25.5	19–41	26.18	20–44	28.3	31–35	30.3

pleural bands and markings, of limited mobility of the diaphragm, of the presence of fluid in the pleural sinuses, and 4 of the patients had recorded fairly significant infiltrative darkening. In the majority of the patients having residual symptoms, these were discovered in later periods of the illness than in the patients of the primary group (in the sixteenth to twenty-fifth day of illness). In the control group the patients with bronchial pneumonia, at discharge from the hospital, roentgenologically recorded intensification of lung markings, decrease in transparency, extensive fibrinous roots (in 4 patients out of 5).

Blood Studies

Analysis of the blood similarly demonstrated better results in the patients of the primary group. Of the patients with croupous pneumonia there was normal erythrocite sedimentation rate (ESR) in 36 of 65 patients (more than half of the patients); in 14, it was only insignificantly increased. Of 15 patients with bronchial pneumonia, 6 persons were discharged with normal ESR, in 4 there was a negligible increase, and 5 registered a significant increase.

In the control group only 6 patients of 15 had a normal ESR at discharge; a slight increase was observed in 3, and a significant increase in 6 patients. Of the patients with bronchial pneumonia only 1 had a normal ESR at discharge; also 1 had a small increase, and 3 of the patients registered a significant increase in erythrocite sedimentation rate.

Thus the physical and roentgenological findings and analysis of the blood indicate a more complete and rapid resorption on the inflammatory process in the lung tissue of the patients of the primary group, by comparison with the control group, in spite of the larger quota of patients in the primary group.

No complications after recovery from pneumonia were observed in the patients of the primary group; all of the patients after discharge from the hospital returned to their jobs. In the control group the complications observed were purulent otitis, suppurative conjunctivitis, and highmoritis (inflammation of the maxillary sinuses), migration of the process in the lungs (1 patient had every complication), pulmonary-cardiac insufficiency developed in 2 patients soon after discharge from the hospital, one of whom was rehospitalized and the other patient was transferred to the invalidism group III and treated at home.

Of the patients of the primary group the average length of stay in the hospital and leave of absence after discharge, that is, the usual number of days incapacitated for work, were less than for the patients of the control group, particularly of the patients with a more serious course of illness (table II).

The data cited testify to the fact that therapeutic gymnastics, employed in the complex treatment of the pneumonic patient, contribute to the quicker and more complete recovery of the patient and restoration of the capacity for work.

The functional condition of the respiratory and cardiovascular systems as noted upon examination before discharge showed that better results were obtained from the patients in the primary group than from the patients in the control group.

Respiratory and Cardiovascular Functions.

The first examination of the function of respiration and of the cardiovascular systems was made of the patients of the primary group in the beginning of the course of therapeutic gymnastics and of the control group—on the day corresponding to the beginning of the gymnastics; the second examination—before discharge from the

hospital. This afforded us the opportunity to follow the dynamics of the functional condition of the indicated systems with the usual medical treatment (antibiotics, sulfanilimide preparations, cardiovascular remedies, calcium chloride, vitamins) and with treatment including therapeutic gymnastics along with the medical remedies.

The predischarge examination of the primary group showed a significant increase in vital capacity of the lungs—a majority of cases reaching normal volume; breathing became slower, deeper, and more regular. There was an improved ventilating capacity of the lungs and gaseous exchange indicating an increase of pulmonary ventilation, of absorption of oxygen and liberation of carbon dioxide, and an increased improvement of each of the indicators of respiratory function, both the respiratory equivalent, and the coefficient of consumption—the ventilation index indicating satisfactory functional capacity of the organs of breathing and in conformity to the demands made of the organism.* An increase of gaseous exchange is an indirect indicator of revival of the oxidizing-restoration processes in the organism that undoubtedly has a great value in the period of resolution of the pneumonia since it aids in the detoxification of the organism.

In the control group we did not find such strong positive changes in the respiratory function. Many of the patients of this group were discharged with the indicators showing a lack of final restoration of the functional capacity of the organs of breathing; in a number of these patients repeated examination either did not reveal changes, or afforded a worsening of certain indicators of respiration in comparison with the first examination, which undoubtedly made their appearance as a consequence of the "out of training" influence of a long rest.

Dynamics of pulse and arterial pressure revealed improved function of the cardiovascular system at the time of discharge of the patients of the primary group, over that of the patients of the control group. The most significant example of this was a decrease of pulse (more economical work of the heart) and normalization of the arterial pressure of a larger number of the patients of the primary group than of the control. With the first examination of the primary group a low systolic pressure (80 to 90 mm) occurred in 38 patients with croupous pneumonia, and diastolic (50 to 60 mm) in 32 patients; then at the second examination the same systolic pressure (90 mm) was registered by only 8 of the patients and diastolic (60 mm) by 14 persons. Of the patients with bronchial pneumonia, a low systolic pressure (80 to 90 mm) was observed in 8, and diastolic (50-60 mm) in 12 patients; at discharge the same systolic pressure was recorded by only 1 and the diastolic by 3 patients.

In the control group of patients with croupous pneumonia 9 patients had a low systolic pressure (80 to 90 mm); with the second examination it remained the same in 8, and normalization of it was approached by only 1. Diastolic pressure (50 to 60 mm) at the first examination was recorded by 6, and at discharge by 4 of the patients. Of the patients with bronchial pneumonia, a low systolic pressure (80 to 90 mm) was recorded by 3 out of 5 patients; at discharge it remained the same for all of the patients. There was a low systolic pressure (60 mm) at the first examination of 2 of the patients; it remained the same for them at discharge.

Thus the dynamics of the indices of respiration and of the cardiovascular systems clearly demonstrate that the function of the respiratory apparatus and the apparatus of blood circulation, significantly disturbed at the peak, as in the periods of illness following the crisis, recovery was quicker and was more complete with the use of therapeutic gymnastics.

On the basis of our observations we assume it possible to express the hypothesis that a single medical treatment with the usual hospital regimen of exercise in bed, which does not include elements of progressive activity and training, is insufficient for functional recovery of the independent physiological systems and of the entire organism of the patient. Thus recovery with progress is achieved by the timely incorporation of therapeutic gymnastics in the complex treatment.

CONCLUSION

1. The use of therapeutic gymnastics in the complex treatment of croupous pneumonia and focal bronchial pneumonia promotes a more complete and rapid resorption of the inflammatory focus in the lungs, forestalling the formation of complications after discharge from the hospital, reducing the duration of stay in the hospital and the number of days incapacitated for work, enabling a quicker and more complete recovery of the functional capacity of the cardiovascular and respiratory systems.

2. It is necessary to consider the timely, pos-

* for economy of space the tables cited by the author have been omitted.

sibly earlier use of therapeutic gymnastics as an essential step in the complex treatment of this illness in the convalescent period after the crisis of pneumonia.

A SERIES OF PHYSICAL EXERCISES FOR PNEUMONIC PATIENTS

Series I—At the beginning of illness

Initial Position	*Type of Exercise*	*Repetitions*	*Tempo*
1. lying, arms at side	Quiet breathing—40–60 sec.		
2. the same	Supination and pronation of the wrists; breathing naturally	6–8	moderately
3. the same	raise arms up to head of bed—inspiration, return to original position—expiration; breathing slightly deepened.	3–4	slowly
4. the same	flex and extend ankles; normal breathing.	8–10	moderately
5. the same	abduct arms—inspiration; return to original position—expiration.	3–4	slowly
6. lying, hands on belt	alternately flex right and left legs at knees, sliding heel on the bed—breathing naturally	3–4	slowly
7. lying, arms bent at elbows	make a bridge with elbows and back of head— inspiration; cave in dorsal area of spine—expiration.	2–3	slowly
8. lying, arms at side	quiet breathing—40–60 sec.		
9. the same	hands locked, raise arms upwards, palms turned away from you.	3–4	moderately
10. the same	alternately abduct legs, breathing naturally	2–3	slowly
11. the same	quiet breathing—40–60 sec.		
12. the same	alternately reach right and left hand out to article on the bed table, breathing naturally.	2–3	slowly
13. lying, arms bent at elbows, hands on shoulders	spread shoulders to side—inspiration; return to original position—expiration	3–4	slowly
14. lying, arms at side	quiet breathing—40–60 secs.		
15. the same	alternately raise right and left leg upward—lower to the bed; breathing naturally	2–3	slowly
16. the same	Raise arms up, reach head of bed—inspiration; return to original position—expiration	3–4	slowly
17. the same	quiet breathing—40–60 sec.		

Total Time 10–15 min.

Series II—Midway in the course of the illness

Initial Position	*Type of Exercise*	*Repetitions*	*Tempo*
1. sitting, hands on belt	quiet, deep breathing	3–4	
2. sitting, arms hanging down	flexion and extension of elbows; breathing naturally	8–10	moderately
3. the same	raise arms up—inspiration; lower—expiration (record painful symptoms in side)	4–5	moderately
4. sitting	alternately flex right and left knees, hug shins with arms and draw thigh up to abdomen—inspiration; return to original position—expiration.	2–3	slowly
5. standing, arms in front of chest, hands on shoulders	abduct arms—inspiration; return hands in front of chest with a slanting of body forward—expiration. Deep and complete breathing.	4–5	slowly
6. standing, hands on belt; feet on line with shoulders	twist body around to the right (to the left) with abduction of arms—inspiration; return to original position—expiration.	2–3 each side	moderately
7. standing, hands on belt, feet together	lead right foot out to the side—support weight on left foot; the same on left foot; breathing normally	3–4 each leg	moderately
8. standing, arms down	spread arms to sides and raise them up—inspiration; lower arms—expiration. Breathing deepened.	3–4	slowly
9. standing, hands on belt	bend body to left with a raising of right arm upward—expiration; return to original position—inspiration; the same to right side.	2–3 each side	moderately
10. standing, holding to back of bed or chair	semi-sitting on the toes—expiration; return to original position	2–3	slowly

Initial Position	*Type of Exercise*	*Repetitions*	*Tempo*
11. standing	quiet walking on toes—gradually speeding up and slowing down; breathing freely—2–3 min.		
12. sitting, arms hanging, feet in line with shoulders	Abduct arms, turn palms up—inspiration; return to original position—expiration	4–5	slowly
13. sitting, hands on belt	Bend body to the side—expiration; return to original position—inspiration	2–3 each side	moderately
14. the same	alternately raise and lower each leg; breathing naturally	3–4 each leg	moderately
15. the same	Quiet, deep breathing	3–4	
		Total Time 15–20 min.	

Series III—At the end of the illness

Initial Position	*Type of Exercise*	*Repetitions*	*Tempo*
1. sitting, arms down	raise arms up—inspiration; return to original position—expiration; breathing deepened	4–5	slowly
2. sitting, arms bent at elbows, hands at shoulders	abduct arms—inspiration; return to original position—expiration	6–8	moderately
3. sitting, hands at belt	alternately flex right and left legs at knee joints; breathing naturally.	3–4 each leg	moderately
4. standing, hands down	abduct arms level with shoulders with a straightening of body—inspiration; return to original position—expiration; deep breathing	4–5	slowly
5. standing, hands in front of chest	twist body to left (right)—adduct scapulae—inspiration; return to original position—expiration.	3–4	moderately
6. standing, hands on belt	bending of the body back—inspiration; return to original position.	3–4	slowly
7. the same	a moving forward alternately of right and left foot (count 1, 2, 3;) on count 4 return to original position.	2–3	slowly
8. standing, arms down	Exercise "Pump"	3–4 each side	
9. standing, hands on belt	Quiet, deep breathing	3–4	
10. sitting, hands pushed against seat.	Count 1—raise right leg, on 2—bend knee, on 3—straighten knee, on 4—down; the same on the left leg; breathing naturally.	3–4	slowly
11. sitting, hands on head, feet at shoulder width	Bend body to side—expiration; return to original position—inspiration.	3–4	moderately
12. standing, hands down	Quiet, deep breathing	3–4	slowly
13. standing, hands in front of chest, wand in hands	Bend body forward, reach floor with wand—expiration, return to original position—inspiration.	3–4	slowly
14. standing, hands on belt	Sitting on toes with a forward thrusting of hands—expiration; return to original position—inspiration.	3–4	moderately
15. standing	Little and big snake walk—2–3 min.		
16. standing	Throw a ball by various methods	——	
17. sitting, arms down	Raise arms up—inspiration, drop arms to sides—expiration. Deep breathing.	3–4	slowly

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Translated from *Questions Pertaining to Spaology, Physiotherapy and Therapeutic Physical Culture* by Elizabeth Yoakum.

Case Reports

Ultrasonic Therapy—Severe Frostbite Case

Doris MacNamarra, B.S.

A 42-year-old, blind Alaskan Indian was admitted to the hospital at Tanana, Alaska, Dec. 13, 1950, after having been lost in below-zero weather (—45 to —50 degrees F.) for over 18 hours. The physical examination on admittance revealed marked exhaustion and a rectal temperature of 94 degrees; the left fingers and thumb were numb, swollen and cold; the left foot appeared normal except for minimal swelling of the left hallux. The right foot presented a grotesque appearance—the woolen sock and mukluk (sealskin boot) were frozen solidly to his heel and sole and required soaking for their removal. The entire sole, from the heel to the tips of the toes, expanding laterally upwards about one-half inch, was frozen solid. (Examining doctor's note—"It tapped hard. I'm sure the bottom of the foot would have, literally, broken in two.")

Immediate treatment consisted of rapid warming of the affected parts in a tub bath, (90 to 100 degrees F.) until body temperature was normal. Then the affected extremities were thoroughly dried, elevated, and exposed to room temperature. The patient was given 800,000 units of penicillin for two days, one dose of 200 mgm. of Cortisone intramuscularly, ½ grain of morphine every 3 to 4 hours for extreme pain, and a warm liquid diet. His vital signs were fairly stable with only a slight increase in pulse and respiration rate for approximately 10 hours following warming.

The patient was flown from Tanana to Anchorage, Alaska, on December 14 for further treatment. The orthopedic examination revealed extreme induration of the entire right foot with discoloration to the proximal area of the metatarsophalangeal joints, a bleb formation covering the dorsum of the right foot to the mid-metatarsal area, and plantar demarkation to the medial aspect to the mid-lateral line with a plantar bleb forming. There was no evidence of gangrene; the foot was warm and the pedal pulse was intact. The left foot was discolored, edematous, and had a mild induration of the toes to the metatarsophalangeal joints. There was no obvious swelling or bleb formation and the pedal pulse was intact. The left hand had a bleb formation on the index finger and an avulsion of tissue on the dorsum of the thumb. The two distal joints of the middle finger were missing, having been amputated due to a prior frostbite. The hand was warm and the radial pulse was intact.

The treatment consisted of elevation of the affected extremities, protection of the feet by means of a bed cradle, sterile Phisoderm scrubs, and thorough drying. Cotton was placed between the toes and a sterile dressing applied to the left thumb. The patient was given 25 mgm. of Priscoline, q.i.d. for four days, and 2 cc of Dicrysticin h.i.d. for 10 days. Heparin therapy was started on his second hospital day along with regular Lee-White tests. The left hand and both feet were treated with ultrasound for 15 days. The affected parts were immersed in 98 degree F. sterile saline during treatment and the dosage was 1 w/cm2 for 5 minutes to each extremity.

Daily progress record during 15 days of ultrasonic treatments:

first day: (December 15) There was an apparent increase in the temperature and circulation of both feet; there was a slight drainage of the bleb on the dorsum of the right foot; the left thumb was open and draining.

second day: A cellulitis with marked erythema and edema was present in the entire right lower leg and foot.

third day: The cellulitis had diminished and the right toes showed the first signs of eschar.

fourth day: The cellulitis continued to decrease and the aching of the right foot was relieved by the treatment.

fifth day: The cellulitis was confined to the right foot. There was no erythema or edema remaining in the lower leg; the right toes were eschar, and the dorsum of

Chief, Physical Therapy Department, Hospital, Anchorage, Alaska.

the foot was normal in color; the left hallux was normal in size and color.

sixth day: The right toes were extremely cyanotic prior to the treatment but the plantar pads of the first, second, and third toes were erythematous during and following treatment.

seventh day: The bleb formations had decreased, the fluid was apparently being absorbed and the edema was confined to the right forefoot.

eighth day: All affected parts remained essentially the same.

ninth day: Very little fluid remained in the blebs.

tenth day: A distinct erythema of the right foot, except for the distal two thirds of the hallux, was produced during treatment.

eleventh day: The left thumb was healing well; a line of demarkation was forming at the distal joints of the left index and ring fingers.

twelfth day: The demarkation line at the distal one third of the right foot was fairly definite and the bleb formations had disappeared. The entire right hallux remained cyanotic with eschar forming.

thirteenth day: The line of demarkation on the right foot remained unchanged but the circulation and color, distal to the line, were improved during and following the treatment.

fourteenth day: The line of demarkation was less apparent on the lateral side of the right foot. There was a new bleb formation just posterior to the medial malleolus. The color change, during the treatment, continued.

fifteenth day: (December 29) The pain was moderate and was markedly diminished by the treatment. There was a pink discharge from the bleb on the right heel. Ultrasonic treatments were discontinued.

On January 9, the patient was taken to surgery. The frostbite area of the toes of the right foot was thoroughly debrided and when some portion of eschar was removed, clean, granulating tissue was found underneath. The eschar caps from the left index and ring fingers were also debrided and removed, revealing fine skin below. It appeared as if the patient would have a normal result except for the possibility of the loss of part or all of the right hallux. The tendon of the extensor hallucis longus was visible but not remarkably necrotic in the area. Following the surgical procedure, vaseline gauze was applied and the right foot was placed in a posterior mold which was removed for sterile whirlpool and active-assistive exercises twice daily.

After seven days of this type of treatment, the drainage of the right hallux had decreased and a soft pressure area had developed on the right heel. A cast was applied to the right lower leg. On January 23, the cast was changed and there was no odor, pain, or swelling. The left thumb was completely healed.

On January 31, the right hallux was draining only at the base and the patient was able to flex it actively; the pressure area on the heel was granulating. The patient at this time expressed worry concerning his ability to read Braille with the affected left hand. When the necessary books had been procured, it was found that the patient had normal sensation in the affected fingers and was able to "read" without difficulty.

The right hallux was amputated at the metatarsophalangeal joint on February 6. Fifteen days later, the cast was removed and the amputation site demonstrated fine granulation tissue with the area over two-thirds closed. The area in the region of the heel was healing slowly. The patient was again sent to physical therapy for daily whirlpool until the heel had completely granulated in and the toe base was clean.

On April 18, the patient was weight bearing with a cane but tended to bear more weight on the heel than on the forefoot and the toes. Whirlpool, active exercise, and gait training were continued daily until muscle strength and range of motion were within normal limits.

Following the review of this case, extensive study of the use of ultrasonic therapy in the treatment of frostbite has been instituted at one of the Air Force bases here in Alaska.

The *Review* invites case reports from physical therapists who have followed an interesting course of treatment with or an unusual response to treatment by patients having one of the conditions listed below.

Diabetic neuropathy
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Volkmann's ischemic contracture
Dupuytren's contracture
Osteoarthritis
Coronary thrombosis
Cerebral palsy with sensory disturbance
Postmastectomy lymphedema

NOTE: Suggestions for preparation of case reports were published in the October 1957 issue of the *Review*, pages 666-667. Reprints of the suggestions may be requested by writing to the *Physical Therapy Review*.

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Immediate treatment consisted of rapid warming of the affected parts in a tub bath (99 to 100 degrees F.) until body temperature was normal. Then the affected extremities were thoroughly dried, elevated, and exposed to room temperature. The patient was given 600,000 units of penicillin for two days, one dose of 200 mgm. of Cortisone intramuscularly, ¼ grain of morphine every 5 to 6 hours for extreme pain, and a warm liquid diet. His vital signs were fairly stable with only a slight increase in pulse and respiration rate for approximately 10 hours following warming.

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Chief Physical Therapist, Providence Hospital, Anchorage, Alaska.

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Suggestions from the Field

Syphon Drinking Cup

Mary Hill

Hot weather produces extra problems for the bedridden, and in particular for the quadriplegic patient who is unable to reach out for a drink of water when required. The following methods were evolved for both wheel chair and bedfast patients.

MATERIALS REQUIRED

1. Receptacle for water.
2. One opaque plastic catheter tube of 3/16 inch thickness and 5 foot in length.
3. Rubber nipple with pin-sized opening, or teat of baby's bottle.
4. Stand to attach mouthpiece to bed or chair.

METHOD

Principle of method

The principle of this method is a syphon action; but in order to stop the liquid flow when required, a teat is used to control the amount of water escaping. To minimize the amount of suction a patient must use, the levels of the container and the mouthpiece should be as nearly on par as possible, but with the mouthpiece at a slighter *higher* level, to prevent dribbling from the teat. In this way, by ceasing the suction action, the amount of water escaping is slowed and then stopped.

It is possible to make this method work satisfactorily without the rubber teat, but this addition gives greater control, with less likelihood of a wet bed, and gives the patient a better mouthpiece to grip.

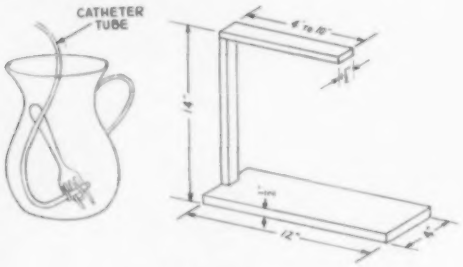
With the patient in lying position (Fig. 1)

The jug is placed on the bedside table with the tube connecting container and mouthpiece. The tube descends to the bottom of the jug forming a circular ring at the base of the jug. It can be held down by a weight attached to this end. (A fork, with bent prongs through which the tube was twined, was used.) The tube lies along the stand with the mouthpiece close enough to the patient for him to lift his head to obtain a drink.

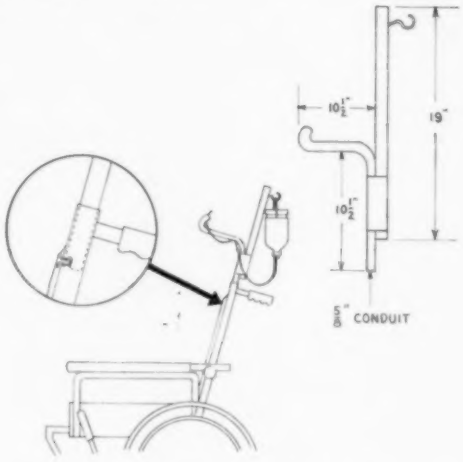
The stand consists of a wooden frame 14 inches high. Its base is a planed platform approximately 12 inches in length and 4 inches in width, which is slipped under the mattress to secure the apparatus. The upper wooden strut varies from 4 to 10 inches in length, depending on the patient's most usual position in bed; the tube is attached to this portion with the mouthpiece protruding.

From the Physical Therapy Department, Oak Forest Hospital, Oak Forest, Illinois.

Miss Hill is a member of the Chartered Society of Physiotherapy and a member of the American Physical Therapy Association.



Bedside apparatus



Wheel chair apparatus

Drawings by J. Drennan

With the patient in sitting position (Fig. 2)

The stand, in this case, consists of a piece of metal piping, bent to the necessary requirements, which fits into the back-support socket on the wheel chair. It is grooved in order to maintain a steady position. A wooden strut is firmly attached to the piping; from this strut hangs a bottle (as used for saline drips). By using a venous return stopper, the tube is attached to the bottle. The tube runs along the piping to a mouthpiece which is held in place by a clamp, within easy reach of the patient's mouth when he flexes his head.

Figure 1.

Figure 2.

Have you given?

SYMBOLS
of
HOPE
and
OPPORTUNITY
for
NATION'S CRIPPLED

National Society for
Crippled Children and Adults
2023 W. Ogden Ave.
Chicago 12, Ill.

Editorial

The Third Front

A professional group, if it is to be truly professional, must advance on three fronts—those of service, education, and research. The first is most familiar to us, and the one which we take for granted; the vast majority of our attention and effort has been directed toward the area of service. But the practice of physical therapy on a professional level can only survive and prosper with the support of the other two aspects of professional activity. Education has made gratifying advances in past years. Figures can be cited on increased number of schools, improved level of training and academic status of faculty, and some progress has been made in assumption of ultimate responsibility of training of physical therapists by physical therapists. At the same time, many large problems in education remain to be solved and must be solved if we are to keep pace with our sister allied medical groups. Our best efforts in this area must be continued.

It is on the third front—research—that we are farthest from attaining professional status. To be sure, this aspect of the growth of a profession usually lags behind the other two. But increasing attention must be paid to the support and advancement of this component of professional activity if we are to achieve a balance in our united efforts. In 1957 an important step was taken when the Physical Therapy Fund, Inc., was instituted for the purpose of supporting research and special investigations by members. Along with the other health fields, we are in an era of self appraisal and much good can come from review and analysis of current personnel, professional practices, policies, and attitudes. In relation to the Fund, the possibility of a benign circle appears. As its benefits become apparent and its purposes and accomplishments are better appreciated, the Fund will receive more contributions and grow so that its usefulness can be still further extended.

As an Association we must consider means of recognizing achievement and of fostering activity among members in research. To paraphrase a recent Rockefeller report, "There is no more searching or difficult problem for a (profession) than to identify, nurture, and wisely use its own talents." In presuming that research should be an integral part of physical therapy as a profession, many questions arise

Editorial

such as: Which persons should go into this work, what training should they have, to what areas of research can they contribute, what types of jobs can be made available to them which favor their continued growth as investigators? The Association should concern itself with the answers to such questions. A number of our members have been fortunate enough to work with trained and experienced researchers and to learn about scientific method by this avenue. A few have taken advanced academic work, a large share of which consists of planning and carrying out scientific investigation of some nature. An important point here is that training at the doctorate level must be taken in a field other than physical therapy. It will be interesting to see if those who have furthered their knowledge in anatomy, physiology, and psychology remain oriented to physical therapy. It would be deplorable indeed if such advanced work proves to be an avenue of exit from the field.

The recent membership survey designed to find out what has actually been done in research will indicate avenues which have been followed by physical therapists up to the present time. More important, this information should be helpful in our planning for the future.

MARIAN WILLIAMS, PH.D.
Program Chairman
Research Group

"Rockfeller Report" on Education, "The Pursuit of Excellence: Education and the Future of America." Doubleday & Co., Inc., Garden City, N. Y., 1958.

Jeanne Linquist Memorial

To the memory of a fine therapist who influenced so many, both by her professional skill and as a wonderful person, Rancho Los Amigos Hospital Physical Therapy Department wishes to establish a Memorial to Jeanne Linquist.

This is to be in the form of a Book Fund to be maintained for special books in the Division of Physical Therapy at Stanford University. Books appropriated for acquisition through the fund will contain a memorial bookplate.

Those who wish to contribute, please write to:

Viola Robins
Physical Therapy Department
Rancho Los Amigos Hospital
Downey, California

Volunteers in National Office

Ruth Whittemore, formerly Consultant, Department of Professional Services; Dorothy Schumer, Chairman, Greater New York District, New York Chapter; and Mary Alice Jackson, Nurse Anesthetist and friend of Miss Schumer, contributed a total of 78 hours of painstaking clerical work in the National Office during early February.

Had one person been employed to perform the task, not less than 100 hours would have been required and the cost to the APTA would have been almost $200.00. The Association is indeed grateful to these conscientious volunteers.

Membership Directory

An alphabetical listing of active, inactive, and life members as of Jan. 6, 1959 is now available.

The following price schedule has been set:

To APTA members, chapters and districts	$1.00 each
To others	2.00 each

The supply is limited. Mail your check now to The American Physical Therapy Association, 1790 Broadway, New York 19, N. Y.

WORLD CONFEDERATION FOR PHYSICAL THERAPY *News*

The World Confederation Bulletin

The World Confederation for Physical Therapy is composed of 15 national organizations whose combined membership is approximately 50,000. It was founded at a meeting in Copenhagen, Denmark, in 1951 after three years of preparation by the organizing committee. Miss M. J. Neilson, Secretary of the Chartered Society, was appointed Honorable Secretary and Treasurer with the permission of the Society, which generously offered space and clerical assistance to permit the World Confederation to establish its headquarters in London.

The purposes of the Confederation are to encourage improved standards of physical therapy training and practice in order to provide the highest quality of service to the patient; to promote in all the nations scientific research and opportunities for obtaining knowledge of new developments in the field of physical therapy; to encourage and promote appropriate means of communication and exchange of information between the nations with respect to the advancement of physical therapy; to provide information, counsel, and assistance in the field of physical therapy; to assist in developing an informed public opinion among all peoples in matters relating to physical therapy; to organize at regular intervals international congresses of physical therapy and to make available reports thereof; and to cooperate with the appropriate agencies of the United Nations and other appropriate national or international organizations.

In carrying out its purposes the World Confederation has developed several documents for distribution to member organizations and appropriate agencies of the United Nations and international and voluntary agencies concerned with rehabilitation.

It was early recognized that communication between member organizations must be developed and maintained. Accordingly, a bi-yearly *Bulletin* was established for distribution to the national associations which comprise the membership in the Confederation. Each association receives copies for distribution to its executive committee or board of directors.

The *Bulletin* took some time to develop but gradually member organizations have provided copy, telling what they are doing in the international field. Other information is obtained through universal exchange of journals. National associations were asked to reprint as much information as they could in their own journals in order that the interested individual member would be aware of the growing activities of the Confederation. The amount of space given has been most gratifying to the Executive Committee.

From time to time requests for the *Bulletin* have been received from individual physical therapists. The question of expanding its circulation was discussed by the Executive Committee at its meeting, June, 1957. It was felt that it would not be feasible to do this because of the expense and time involved by the Secretariat and, second, it was believed that individual physical therapists obtained the essence of the *Bulletin* in their own journals and in their own language. The Committee was at the same time gratified with the interest shown. Since the June 1957 meeting of the Executive Committee there has been continued discussion by mail on making the *Bulletin* available to individuals. The Committee, therefore, has reexamined the question and has agreed to a limited circulation through arrangements with national associations. Any member wishing copies of the *Bulletin* may through his own association receive it at a cost set by that association to cover cost of the *Bulletin*, sea mail, and postage within the country. Each association must notify the Secretary of the Confederation by February 15 and August 15 of each year of the numbers it wishes to order. Bulletins are sent in bulk sea mail to the association which in turn mails to the members wishing to receive it.

What does the *Bulletin* contain? The following is the Table of Contents for the September 1958 issue:

1. President's message and her report of a trip around the world
2. World Confederation for Physical Therapy Annual Report
3. Financial Report for 1957 and estimates for 1958
4. UNICEF
   a. World Confederation for Physical Therapy membership on its Non-Government Committee
   b. Rehabilitation programs in Europe
5. Miss Elson's report on Council of World Organizations Interested in the Handicapped—Plenary Session
6. Miss Morlighem's report on Congrès Scientifique International
7. Honorable Secretary's report on *ad hoc* meeting on rehabilitation of the physically handicapped called by the United Nations
8. Honorable Secretary's report on Federation Nationale Belge des Kinesistes Congress (Belgium)
9. World Health Organization
   a. Miss Elson's report on 10th Anniversary Commemorative Session
   b. Letter from Director General
10. Third Congress of the World Confederation for Physical Therapy
11. Report from Member Organizations on Publicity
12. Donation to World Confederation for Physical Therapy funds
13. News from Member Organizations
14. Universal Children's Day
15. Pan Pacific Congress
16. Dates of Conferences
17. Publications
18. Officers of Member Organizations

The expense involved was mentioned. The Confederation has a very small cash income. Each Association pays only $20 a year. Cash donations from time to time have permitted the Confederation to operate in the black until this year.

It should be known that only because of the generosity of the Chartered Society is there an office and staff to carry out the Confederation's activities, including the preparation of the *Bulletin*. At present the Chartered Society has permitted the Secretary to be Honorable Secretary and Treasurer to the Confederation on a volunteer basis. It has provided her with a full-time senior clerk and almost full-time junior clerk, plus space and equipment. The dollar equivalent of this is not a small sum. It therefore can be readily understood why the Executive Committee was reluctant to add any further duties or expense to the Secretariat.

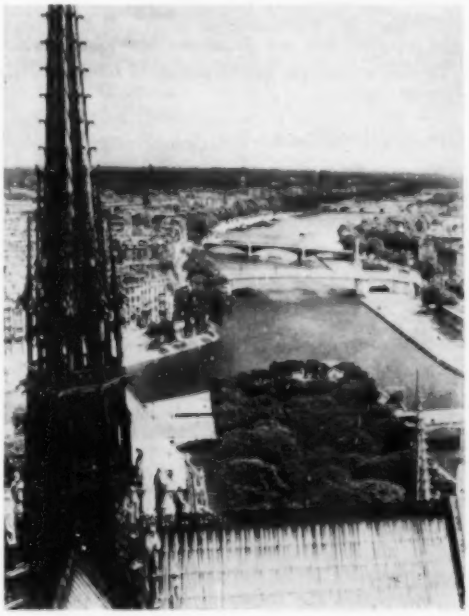
The subject of finance will be one of the main items of business for the Executive Committee in Paris and its deliberations will be reported to the General Meeting for discussion and recommendations for future action.

APTA members wishing to receive the *Bulletin*, either regularly or single issues, may request them through the National Office. A few copies of the latest (February, 1959) issue are in stock. Future issues may be ordered prior to February 1 or August 1 preceding the date of issue. The cost is nominal, usually about 20 cents per copy plus sea mail and United States postage.

President's Message to Member-Organizations

Special greetings are extended to you in this important year of our Third International Congress to be held in Paris next September. To many of us who were in New York for the last Congress, it will seem only yesterday that the slogan "Pennies for Paris" was started and now "Tickets for Paris." I look forward to welcoming you there.

I have now paid visits of varying lengths to twelve of our Member-Organizations and although I have not yet been able to accept the kind invitation from South Africa to visit them, I remember well my happy meetings there in 1951. I know that many of you are coming to Paris. Such an International Congress is an op-



Notre Dâme et la Seine

portunity, not only for learning, but for interchange of ideas. The work to be done in the world through the WCPT requires time and support from all individual members. Through unity of effort we shall be able to contribute more and more in our professional field.

As a Profession we must know how best to take our place in the Councils of the world as one of the oldest members of the Rehabilitation Team, teaching and spreading knowledge of the part we play and the place we hold, not only in the countries where Physical Therapy is just developing, but also in those where our profession is most fully developed.

For all this we shall have to change our slogan into "Pennies for Progress."

G. V. M. GRIFFIN
President

Third Congress

World Confederation for Physical Therapy

Third International Congress—Sunday, Sept. 6, 1959, to Saturday, Sept. 12, 1959.

Place of the Congress—The Congress will be held at the Nouvelle Faculté de Medécine, 45 Rue des Saints Péres, Paris VI^e^, France.

Attendance—The Congress is open to all members of the American Physical Therapy Association.

Opening Ceremony—The opening Ceremony will be held in the famous Palais de Chaillot at 9 A.M. Monday, Sept. 7, 1959.

Theme—The theme of the Congress will be "Physical Therapy—Its Importance in Human Economic and Social Development" with emphasis on Neurology, Geriatrics, Orthopedic Surgery and Traumatology, Rheumatology, Heart and Chest Conditions, Aids and Prostheses, and Psychiatry.

Further information will be published as the program develops.

OFFICIAL LANGUAGE

There will be simultaneous translation of the lectures and discussions in English, French, and German.

General Assembly—A meeting of the General Assembly of the World Confederation for Physical Therapy will be held during the Congress.

Social Events—The following social program is being planned for members of the Congress:

A reception at the Musée du Louvre
A trip on the Seine
An evening at the Opéra de Paris
A reception for foreign representatives at the Hotel de Ville de Paris
An official banquet
A visit to the Chateau de Versailles to see Son et Lumière
A visit to the Chateau de Pierrefonds

For all Association members and other persons planning to attend the Congress from the United States the following arrangements have been made by the American Physical Therapy Association:

Charter Plane—Arrangements have been made with Trans World Airlines and KLM Royal Dutch Airlines to provide round-trip reservations on charter flights as follows:

Depart New York Aug. 15, 1959—Arrive London
Depart Paris to New York Sept. 14, 1959
Round-trip fare: $257.00
Depart New York Sept. 3, 1959—Arrive Paris
Depart London to New York Oct. 1, 1959
Round-trip fare: $250.00

The above fares are based on full capacity of chartered aircraft and are subject to revision.

Reservations must be accompanied by a $75.00 deposit and should be sent as soon as possible to:

American Physical Therapy Association
1790 Broadway, New York 19, New York

In the event of cancellation, full refund will be made up to 60 days before departure dates. After that time, flight refunds depend upon substitute passenger being secured.

Land Tours—American Express Company has arranged two tours for the three weeks prior to the Congress and three weeks after the Congress week. The above charter plane schedules coincide with tour dates. Further information on the European tours may be obtained by writing to:

Mr. P. W. Gould
American Express Company
65 Broadway
New York 6, New York

or by consulting any local office of the American Express Company.

Accommodations and Congress Fees—An allotment of hotel rooms is being held in Paris for members attending the Congress from the United States. Accommodation deposits, Congress registration, and social events fees will be collected by the American Express Company. Detailed information will be available at a later date.

Trade Exhibition

Inquiries and applications for exhibit space should be made to the professional physical therapy organization in each member country.

PRE- AND POST-CONGRESS COURSES

Great Britain

The following courses have been arranged by the Chartered Society of Physiotherapy, Tavistock House (South), Tavistock Square, London W. C. 1, England:

A. Name of Course
Paraplegia

Location of Course
Stoke Mandeville Hospital, Aylesbury, Bucks

Dates of Course
Aug. 31 through Sept. 3, 1959

B. Name of Course
Medical and Surgical Chest Conditions

Location of Course
Brompton Hospital, London, S.W.3.

Dates of Course
Sept. 14 and 15, 1959

Applications
Applications should be directed to the Chartered Society of Physiotherapy at the above address.

Denmark

Name of Course
Disorders of the Spine with Special Reference to Posture and Neurology

Location of Course
Idraetshøjskolen, Sønderborg (Folk High School of Physical Training)

Dates of Course
Aug. 23 through Aug. 28, 1959

Fee
228 Danish Kroner which includes board and accommodations at the school

Applications
Applications are limited to those physical therapists who *understand Danish* and should be directed no later than May 1, 1959 to:

Danske Fysioterapeuter
Vesterbrogade 8
Vesterport 453
Copenhagen V, Denmark

Sweden

An opportunity to follow the work and participate in the treatment of patients at the Department of Physiotherapy, Stockholm University Hospital is offered to those physical therapists who *understand Swedish*. As a rule, permission is granted for one month between September 15 and December 20; February 1 and June 20. Applications should be sent in advance to:

Doctor-in-Charge
Karolinske sjukhuset
University Hospital
Stockholm, Sweden

Western Germany

The following courses are being arranged by the Zentralverband Krankengymnastik E.V. and are open only to those physical therapists who *understand German*. Applications should be sent to the individual school offering the course.

1. Name of Course
Posture and Corrective Exercises with Special Consideration for the Physically Handicapped (Relaxation and Breathing Exercises)

Location of Course
Krankengymnastikschule an de Universität Göttingen

Dates of Course
Sept. 16 through Sept. 26, 1959

Fees
Members of Organizations belonging to the World Confederation for Physical Therapy 60 Marks
Nonmembers 75 Marks

2. Name of Course
Treatment of Scoliosis According to Klapp (Klapp's Crawling Exercises)

Location of Course
Krankengymnastikschule an der Chirurgischen Universitatsklinik "Rudolf Klapp-Schule," Marburg-Lahn

Dates of Course
Sept. 28 through Sept. 30, 1959

Fee
Members of Organizations belonging to

(*continued on page* 178)

Association News

American Physical Therapy Association

Association Officers, Standing and Advisory Committees

BOARD OF DIRECTORS

President:	Agnes P. Snyder*, San Antonio, Tex.	1958–1961
1st Vice-President:	Mary E. Kolb*, Leetsdale, Pa.	1958–1961
2nd Vice-President	Dorothy Hewitt, Los Angeles, Calif.	1958–1961
Secretary:	Jean Bailey*, Milwaukee, Wis.	1958–1961
Treasurer:	Anthony DeRosa*, Hartsdale, N. Y.	1958–1961
Directors:	Sarah W. Bassett, Boston, Mass.	1958–1961
	James M. Bauer, Storrs, Conn.	1958–1961
	Edna M. Blumenthal, Durham, N. C.	1958–1961
	Kathryn J. Shaffer, Swampscott, Mass.	1958–1961
	Elizabeth C. Addoms, Brooklyn, N. Y.	1958–1960
	Dorothy A. Graves, Los Angeles, Calif.	1956–1960
	Susanne Hirt, Richmond, Va.	1956–1960
	Louise A. Bailey, Chicago, Ill.	1956–1959
	E. Jane Carlin*, Philadelphia, Pa.	1956–1959
	Florence Linduff, Washington, D. C.	1958–1959

* (Member of the Executive Committee)

ADVISORY COUNCIL

LeRoy E. Bates, M.D., Chicago, Ill.	1958–1961
Eric Denhoff, M.D., Providence, R. I.	1958–1961
Thomas F. Hines, M.D., New Haven, Conn.	1956–1961
William T. Sanger, Ph.D., Richmond, Va.	1958–1961
A. R. Shands, Jr., M.D., Wilmington, Del.	1956–1961

STANDING COMMITTEES

Conference Program Committee

Hazelle M. Erickson, *Chairman*, Minneapolis, Minn.	1957–1960
Mary E. Kolb, Leetsdale, Pa.	1958–1961
Gudrun Tandberg, Seattle, Wash.	1956–1959

Finance Committee

Anthony DeRosa, *Chairman*, Hartsdale, N. Y.	1958–1961
Eleanor J. Bader, Wilmington, Del.	1956–1960
Alfred J. Szumski, Richmond, Va.	1958–1961

Judicial Committee

Clara Arrington, *Chairman*, Washington D. C.	1954–1960
Anna L. Sweeley, Boise, Idaho	1956–1962
Harold Glicklin, Windsor Locks, Conn.	1958–1962
Ivan C. Kline, Jacksonville, Fla.	1958–1964
Alma H. Maga, Flossmoor, Ill.	1958–1964

Nominating Committee

Mary Clyde Singleton, *Chairman*, Warm Springs, Ga.	1958–1959
Dorothy Wagner, Chicago, Ill.	1958–1959
Gladdes Neff, Long Beach, Calif.	1958–1960
Beth Phillips, Milwaukee, Wis.	1958–1960
Virginia Wilson, Ann Arbor, Mich.	1958–1961

Review *Editorial Board*

ASSOCIATE EDITORS

Barbara Friz, *Chairman*, Bethesda, Md.	1956–1960
Kathryn J. Shaffer, Swampscott, Mass.	1954–1960
Jessie F. Waddell, Lansing, Mich.	1957–1959
Marian Williams, Ph.D., Palo Alto, Calif.	1958–1960

ADVISORY COMMITTEES

Advisory Committee on Chapter Activities

Katherine Chilcote, *Chairman*, Denver, Colo.	1955–1959
Wayne H. Perdue, Omaha, Neb.	1956–1961
Helen Blood, Salt Lake City, Utah	1956–1961
Dorothy Page, Albany, N. Y.	1957–1962
Ellen Smith, St. Petersburg, Fla.	1958–1963

Advisory Committee to the Department of Professional Education

Charlotte Anderson, *Chairman*, Los Angeles, Calif.	1956–1962
Thelma Pederson, Norman, Okla.	1958–1963
Beth Phillips, Milwaukee, Wis.	1958–1961
Dorothy Hoag, Denver, Colo.	1958–1960
Marjorie Ionta, N. Weymouth, Mass.	1958–1964

Advisory Committee to the Department of Professional Services

Evangeline C. Craig, Dallas, Tex.	1956–1961
Daniel Strelnick, Wauwatosa, Wis.	1956–1961
Betty Nichols, Atlanta, Ga.	1958–1962
Marguerite Du Rette, Portland, Ore.	1958–1963
Elizabeth J. Davidson, Harrisburg, Pa.	1958–1964

AD HOC COMMITTEES

Advisory Committee to American Physical Therapy Association Representative to World Confederation for Physical Therapy

Agnes P. Snyder, San Antonio, Tex.
Mary E. Kolb, Leetsdale, Pa.
Mildred Elson, Woburn, Mass.
Lucy Blair, New York, N. Y.

Committee on Examinations

Sarah Rogers, *Chairman*, New York, N. Y.
Elizabeth Addoms, Brooklyn, N. Y.
Lucille Daniels, Palo Alto, Calif.
Martha Wroe, Kansas City, Mo.
Lorraine Lake, St. Louis, Mo.
Dorothy Fredrickson, Nashville, Tenn.

Chapter News

Southern California

A welcome home has been extended to Mary E. Haskell upon moving to 914 Eighteenth Street, Santa Monica. The newsletter pays tribute to Miss Haskell in the statement, "we need not comment on the many years of service and leadership she has given us."

Members in the West contemplating attending the World Confederation for Physical Therapy in Paris, Sept. 6-12, 1959, may wish to avail themselves of savings on transportation by group flight. A contact with Charles M. Magistro, Pomona Valley Community Hospital, 1798 North Gary Avenue, Pomona, will provide the details.

Illinois

"Why Medical Records?" was the program presented by Elizabeth Price, Medical Record Librarian, at the January Chapter meeting. The discussion emphasized the criterion for and uses of medical records, as well as why they are retained, and for what period of time.

Michigan—Eastern District

At a District meeting the members evaluated, without prior clues, ten patients presented to them during a "gait-session." Blank muscle test charts were provided to the members who were to chart and grade the muscle weakness as clinically demonstrated.

Michigan—Western District

The *Western X-Press* in its front page news items includes: "Sports"—Indoor—Reading the *Physical Therapy Review*; "Politics"—Nominations for National officers; and "Classified Section"—Membership List.

Pennsylvania

An early plug for the 1960 Annual Conference site in Pittsburgh, made a Christmas card debut in the form of a small label attached to the reverse side of the envelopes sent by a zealous member.

EDITOR'S NOTE: Chapter news is compiled by the Chapter and Membership Department from the newsletters and correspondence received in the National Office. All chapters and districts are invited to submit items for this column at any time.

Illinois Chapter Workshop

The Illinois Chapter will hold its annual Workshop Weekend on April 25-26. Sarah Semans will present "The Bobath Concept and Method of Treatment." The Workshop will be held at the West Side Veterans Administration Hospital, 820 South Damen, in Chicago. Registration fee to APTA members will be $5.00. Members interested in attending should contact:

Anna Prochazka
5830 South Stony Island
Chicago 37, Illinois

Coming Meetings

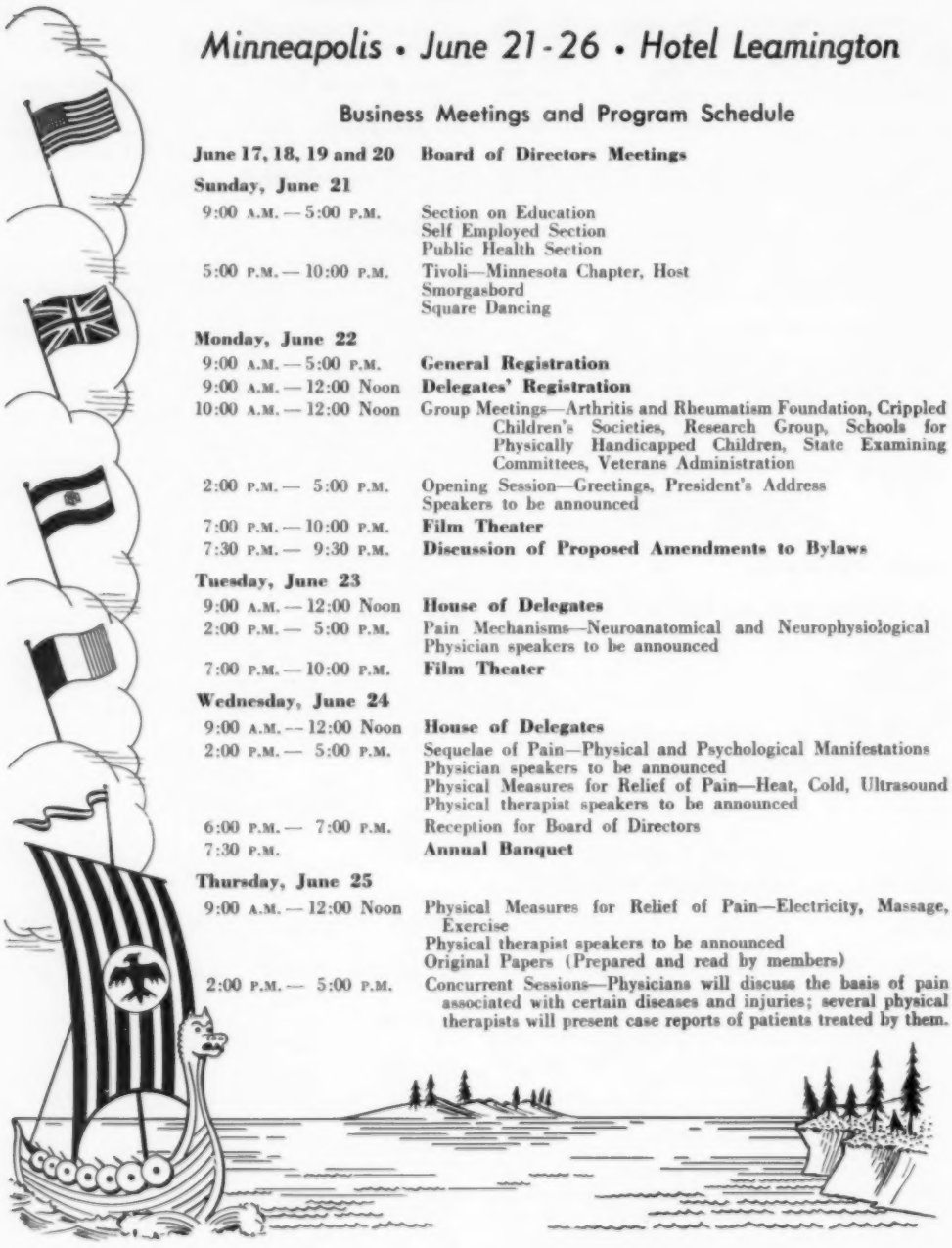
March 9	National Multiple Sclerosis Society, New York City
March 17-19	National Health Council, Palmer House, Chicago
March 23-25	New England Hospital Assembly, Hotel Statler, Boston
April 1-3	Mid-west Hospital Association, Municipal Auditorium, Kansas City
April 6-9	American Academy of General Practice, San Francisco
April 8-10	Southeastern Hospital Conference, Atlanta-Biltmore Hotel, Atlanta

CONFERENCE · 1959

Minneapolis • June 21-26 • Hotel Leamington

Business Meetings and Program Schedule

June 17, 18, 19 and 20	**Board of Directors Meetings**
Sunday, June 21	
9:00 A.M. — 5:00 P.M.	Section on Education Self Employed Section Public Health Section
5:00 P.M. — 10:00 P.M.	Tivoli—Minnesota Chapter, Host Smorgasbord Square Dancing
Monday, June 22	
9:00 A.M. — 5:00 P.M.	**General Registration**
9:00 A.M. — 12:00 Noon	**Delegates' Registration**
10:00 A.M. — 12:00 Noon	Group Meetings—Arthritis and Rheumatism Foundation, Crippled Children's Societies, Research Group, Schools for Physically Handicapped Children, State Examining Committees, Veterans Administration
2:00 P.M. — 5:00 P.M.	Opening Session—Greetings, President's Address Speakers to be announced
7:00 P.M. — 10:00 P.M.	**Film Theater**
7:30 P.M. — 9:30 P.M.	**Discussion of Proposed Amendments to Bylaws**
Tuesday, June 23	
9:00 A.M. — 12:00 Noon	**House of Delegates**
2:00 P.M. — 5:00 P.M.	Pain Mechanisms—Neuroanatomical and Neurophysiological Physician speakers to be announced
7:00 P.M. — 10:00 P.M.	**Film Theater**
Wednesday, June 24	
9:00 A.M. — 12:00 Noon	**House of Delegates**
2:00 P.M. — 5:00 P.M.	Sequelae of Pain—Physical and Psychological Manifestations Physician speakers to be announced Physical Measures for Relief of Pain—Heat, Cold, Ultrasound Physical therapist speakers to be announced
6:00 P.M. — 7:00 P.M.	Reception for Board of Directors
7:30 P.M.	**Annual Banquet**
Thursday, June 25	
9:00 A.M. — 12:00 Noon	Physical Measures for Relief of Pain—Electricity, Massage, Exercise Physical therapist speakers to be announced Original Papers (Prepared and read by members)
2:00 P.M. — 5:00 P.M.	Concurrent Sessions—Physicians will discuss the basis of pain associated with certain diseases and injuries; several physical therapists will present case reports of patients treated by them.



Thursday, June 25

2:00 P.M. — 5:00 P.M. (*continued*)	Topics of the sessions will be: Rheumatoid Arthritis Soft Tissue Syndromes including Bursitis, Fibrositis, and Myositis Sprains, Strains and Whiplash Injuries Fractures Osteoarthritis Cerebral Vascular Accidents Low Back Disabilities Amputations Necessitated by Diseases of Peripheral Circulation

Friday, June 26

9:00 A.M. — 12:00 Noon	Chapter Workshops
9:00 A.M. — 5:00 P.M.	Program-Tour to Mayo Clinic, Rochester (Details to be announced)
2:00 P.M. — 5:00 P.M.	Program-Tours to University of Minnesota Hospitals, Elizabeth Kenny Institute, Minneapolis; St. Johns Hospital, St. Paul (Details to be announced)

Conference Facts

Hotel

Gracious hospitality at the Hotel Leamington, finest in the Upper Mid-West.

Rates

Single Rooms	$ 8.00 to $12.00
Double Bedded Rooms for Two	$10.00 to $13.00
Twin Bedrooms	$11.50 to $18.00
Suites	$16.00 to $45.00

All rooms have combination tub and shower. For each additional person in a double or twin bedroom there is an extra charge of $3.00 a day. Air conditioned rooms are available upon request at $1.00 more per day.

Hotel Reservations

Reservations should be sent to the Hotel Leamington not later than two weeks prior to the Conference. For your convenience a reservation card will be included in your dues notice. The Hotel will acknowledge reservations at the nearest available rate if a room at the rate requested is not available. Persons planning to room together should send in only one reservation listing number of persons sharing accommodations. *Note*: Reservations received after all sleeping rooms in the Leamington have been taken will be assigned automatically to the adjacent Curtis Hotel.

Registration

Active, Inactive and Foreign Probationary Members	$6.00
Student Members	$2.00
Nonmember Physical Therapy Students	$4.00
Nonmember Graduates of Approved Schools	$15.00
Members of Physical Therapy Organizations Affiliated with the World Conference for Physical Therapy:	
Visitors	$6.00
Residents of this country	$15.00

Nonmembers will be required to present credentials.

For the convenience of all, members are requested to register in *advance*. Otherwise, you *must* present your membership card at the Conference registration desk.

Allied professional persons are invited to attend by presentation of credentials and at a courtesy fee of $2.00

Complimentary registration is cordially extended to physicians and administrators upon presentation of credentials.

Exhibits

Applications for commercial exhibit space should be directed to Gordon M. Marshall, 30 West Washington Street, Chicago 2. Scientific exhibits are accepted and assigned by the American Physical Therapy Association.

Social Events

TIVOLI! Fun and frolic on Sunday evening with Smorgasbord, an international dance performance, and good old-fashioned square dancing for all. The Annual Banquet on Wednesday evening will be the entertainment highlight of Conference week. Current plans include a musical production by the famed Schieks Sextet of Minneapolis. Register in advance and take advantage of the reduced price of $10.50 by purchasing tickets for both events. If purchased separately prices are: Banquet $7.00; Smorgasbord $5.00

Film Theater

Members or organizations desiring to show movies, slides, or filmstrips at the Annual Conference may apply for inclusion in the program. Applications are accepted on the basis of special interest and relation to the scientific program.

Applications should be sent to the American Physical Therapy Association before May 1, 1959, and should contain the following information:

Title of film, slides, or filmstrip; producer and/or distributor's name and address;
Technical data: black and white or color;

sound or silent; film or slide size; running time of film, or number of slides and time needed to show them; year produced;
Name or organization sponsoring participation in film theater and of person who will be responsible for material.

The Program Committee will select for the Film Theater those films and slides which in its judgment will be of greatest interest to the audience, which best relate to subject matter, and which will fit into the time allotted.

Reserve Officers of the Army Can Earn Credit in Minneapolis

The Commanding General, U. S. Continental Army Command, has approved the awarding of retirement point credits for Army Reserve Officers who attend specified sessions of the American Physical Therapy Association Conference in Minneapolis in June.

Provision will be made for Reservists to register in the lobby of the Leamington Hotel.

Military Physical Therapy Symposium
Military Section of
The American Physical Therapy Association
Leamington Hotel — Minneapolis, Minnesota
22—26 June 1959

The following sessions, by virtue of their military educational value are included in the symposium and are authorized as military training assemblies. Reserve officers of the Army are therefore eligible to earn training and retirement point credits for attendance at the sessions indicated below providing such attendance at any session is for a period of not less than two hours and registration at each session is accomplished with the individual designated by the Commanding General to accomplish such registration. Not more than one credit can be granted for any single calendar day.

PROGRAM SESSIONS

Day Date Time

Tuesday, 23 June 1400-1700

Pain Mechanisms—Neuroanatomical and Neurophysiological

Wednesday, 24 June 1400-1700

Sequelae of Pain—Physical and Psychological Manifestations
Physical Measures for Relief of Pain—Heat, Cold, Ultrasound

Thursday, 25 June 0900-1200

Physical Measures for Relief of Pain—Electricity, Massage, Exercise

Thursday, 25 June 1400-1700

Concurrent Sessions:

Basis of Pain Associated with Certain Diseases and Injuries, including: Rheumatoid Arthritis; Soft Tissue Syndromes, including Bursitis, Fibrositis, and Myositis; Sprains, Strains and Whiplash Injuries: Fractures, Osteoarthritis, Cerebral Vascular Accidents, Low Back Disabilities; Amputations Necessitated by Disease of Peripheral Circulation

Section on Education

The annual meeting of the Section on Education will be held on June 21, 1959, at the Hotel Leamington, Minneapolis, Minnesota. The major portion of the program for the day will deal with the subject of "The Development of the Clinical Instructor." Rev. John J. Flanagan, S.J., Executive Director of the Catholic Hospital Association, is participating in the development of the program. An authority in the field of Hospital Administration, Father Flanagan is also a member of the Hospital Facilities Research Section of the National Institutes of Health. We are honored to have Father Flanagan's assistance and will publish the full program in later issues of the *Review*.

Membership notices will be sent out to all current members in the near future. If your address has changed, please notify:

Mildred Heap, Treasurer
Section on Education
University of Buffalo
2183 Main Street
Buffalo 14, New York

All Members in Good Standing of the American Physical Therapy Association Please Note. The Section on Education has been organized to provide its members with an opportunity to meet together to "investigate, interpret, evaluate, and exchange ideas on educational philosophies, trends, and practices." If you are a supervisor or staff member in a clinical practice facility of an approved school of physical therapy—if you are affiliated with a facility giving short term, in-service or postgraduate courses—if you are a consultant to an agency concerned with public or professional education relating to physical therapy—if you are a faculty member, or an educational director of an approved school, you are eligible for membership in the Section on Education. Dues are two dollars a year, payable April 1 of each year. Applications for membership may be obtained from Miss Heap, at the address given. Won't you join us?

See You in Minneapolis, JUNE 21, 1959.

MARGARET BRYCE
Chairman

Medical Center, Minneapolis Campus, University of Minnesota

Program-Tours

Are you an opportunist? If so, you will be attending the APTA's 36th Annual Conference being held in Minneapolis, Minnesota, this coming June 21-26, 1959, and taking the opportunity to be present at one of the four Program-Tours to well known medical centers—The University of Minnesota Hospitals and Elizabeth Kenny Institute in Minneapolis; St. John's Hospital in St. Paul; and the world famous Mayo Clinic in Rochester, Minnesota. These Centers will welcome members on Friday, June 26, as announced in the Conference Program.

The University of Minnesota Hospitals were established by the State of Minnesota in 1911 as a 125-bed hospital for the care of patients, the training of students in all medical fields, and the conducting of research in the medical sciences. The present hospital establishment is composed of 9 building sections, including the 14 story Mayo Memorial Building, opened in 1954; the Masonic Memorial Hospital, opened in 1958; and the only heart research hospital in the United States. The present bed capacity has been increased to over 700, with 15,000 patients entering the hospitals annually.

The main point of interest to our members will be the rehabilitation center located on the seventh and eighth floors of the Mayo Memorial Building. The in- and outpatient clinic on the seventh floor comprises a separate physical therapy clinic and gym section, an occupational and prevocational therapy section, a speech therapy section, doctors' offices and examining rooms, a vocational counselor's office, and a rehabilitation social worker's office. The eighth floor is comprised mainly of departmental offices, classrooms, and research laboratories. This modern rehabilitation center has had over 45,000 patient visits yearly.

From a comparatively humble start some 17 years ago, Elizabeth Kenny Institute today has expanded into one of the nation's outstanding treatment and rehabilitation centers for victims of neuromuscular disabilities including polio. The decision of the Elizabeth Kenny Foundation to broaden the scope of its activities to include other neuromuscular disorders grew from its polio treatment program.

Sister Elizabeth Kenny brought her concept of poliomyelitis and its treatment to this country nearly 20 years ago. Today Elizabeth Kenny Institute houses an inpatient center of 82 beds and employs 16 physical therapists. There is also a complete outpatient treatment unit including hy-

In the foreground is the Mayo Clinic new building, completed in 1955. In the background, with the tower, is the Mayo Clinic old building, completed in 1929.

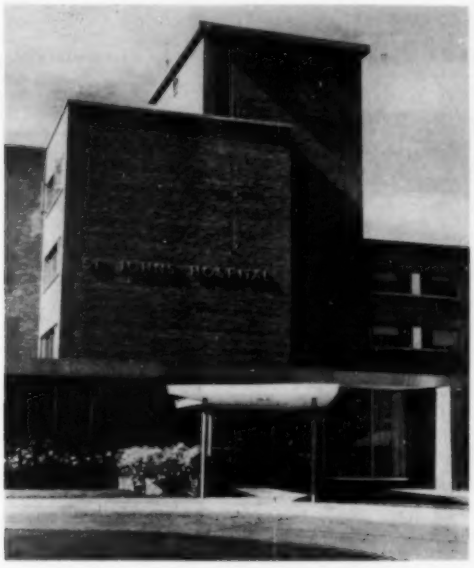
drotherapy, gymnasiums, and children's treatment rooms at Kenny. Included are minor operating rooms and a prevocational unit which, with the occupational therapy department, maintains such activities as sewing, knitting, typing, weaving, printing, woodworking, graphic arts, and appliance repair.

The current Kenny project of most interest to physical therapists, perhaps, is a muscle-testing research program designed to establish a base for normal force of various muscles in the body and determine how far from that norm persons with neuromuscular complaints vary in muscular weakness or strength.

Kenny Institute is also the Kenny Foundation's international training center. Hundreds of doctors from the United States and abroad have received specialized training there. A corps of registered nurses and physical therapists has been trained at Kenny under scholarships provided by the Foundation. Since its founding, Kenny Institute staff has treated more than 12,000 cases of polio alone.

Contrasting with the larger medical centers to

Elizabeth Kenny Institute



St. Johns Hospital

be found in the Twin Cities, St. Johns in St. Paul is an example of a progressive small private general hospital. It can be termed progressive because in the last six and one-half years it has grown from a 65 bed hospital to 305 beds, the newest addition to be completed in spring of this year. Already blueprints have been drawn for the next building program. This rapid expansion of physical facilities is due to the ever increasing demands of the community for the type of care offered. St. Johns' progressive patient care program has been cited as the foremost one of its kind in the country. Types of patient care available include special care, general floor care, rehabilitation, minimal care, and extended or homebound care.

St. Johns hospital is unique also in that its medical staff consists primarily of general practitioners. Physical therapy is under the direction of a Physical Medicine and Rehabilitation Committee composed of selected members of the medical staff; patients are referred directly to the department by their attending physicians.

The physical therapy department, which expanded twice in its original 1953 location, has just moved into one of the most modern, well equipped departments to be found in a private general hospital. Included in the new facilities are a large treatment area, a functional gym, and an extensive hydrotherapy section including a therapeutic pool. Each area has its own temperature-humidity control and the entire department is air conditioned.

At the Mayo Clinic your immediate attention will be focused upon the two stalwart clinic buildings standing proudly and prominently in the center of this city of 35,000. The main, towered, 20 story clinic building was completed in 1929, while the modern white and gray marble, 10 story diagnostic building was completed in 1955 as a continuation of the ever expanding, efficient facilities the Mayo clinic has to offer.

The Mayo Clinic dates from 1903, when founders, Dr. William James Mayo (1861-1939) and Dr. Charles Horace Mayo (1865-1939) found it necessary to expand their facilities succeeded to them from their father, Dr. William W. Mayo. The clinic was started as a surgical clinic, but in a period just prior to World War I, it became a medical center establishing the coordination of group practice in medical and surgical treatment. The medical staff currently consists of 335 members along with 500 younger physicians undergoing graduate training in the medical and surgical specialties. Patient number 2,000,000 was registered in 1954 with 150,000 registrations annually.

Rochester has five hospitals with over 1,600 private hospital beds, St. Mary's Hospital being the largest with 860 hospital beds. The city offers a beautiful array of public parks, museums, and recreational facilities to enhance your Conference vacation trip.

Public Health Section

The annual meeting of the Public Health Section will be held in Minneapolis, Minnesota, on Sunday, June 21, 1959, at the Hotel Leamington from 9:00 A.M. to 5:00 P.M. All members of the American Physical Therapy Association who are interested in home care services are invited to attend. The morning session will be devoted to a discussion of orientation of physical therapists to a public health setting, methods used to keep staff up-to-date on current trends, and other aspects of home care services. The afternoon session will be devoted to a discussion of physical therapy services to nursing homes—report of a pilot study by Mary Macdonald of the Visiting Nurse Association of Boston.

Following the afternoon session, a short business meeting for members of the Public Health Section will be held. Any member of the American Physical Therapy Association holding a position concerned with physical therapy in a

public health setting is eligible for membership in this Section. Association members interested in becoming members of this Section should apply to Wilhelmina Workhoven for membership. Application should contain full name, place of employment, mailing address, physical therapy school and year of graduation. The annual dues are one dollar ($1.00) payable to The Public Health Section, American Physical Therapy Association, and should accompany application.

Alumni Association

Mayo Clinic

School of Physical Therapy

Plan to renew old acquaintances next June at the Conference in Minneapolis.

For details send your correct address *now* to:

Esther Swartz, Secretary and Treasurer
Section of Physical Medicine and Rehabilitation
Mayo Clinic, Rochester, Minnesota

Columbia University Alumni

Columbia Alumni, attending the Conference in Minneapolis, please plan to gather during the dinner hour on Monday, June 23. The exact time and place will be announced or posted at Conference. Plans for a special event will be discussed.

Original Papers for Conference

Members of the Association who have been working on special projects related to physical therapy procedures—research, clinical or laboratory; reviewing results achieved with a group of patients; adaptation or application of new methods of treatment; or any other subject which will advance the profession should plan now to report their work in Minneapolis next June.

Two copies of manuscript, typed (double-spaced), should be submitted to Dorothy E. Voss, Editor-in-Chief, *Physical Therapy Review*, by April 1, 1959. Authors must include their official titles or positions with the manuscript.

The *Review* Editorial Board will select papers to be read by members and has the prerogative of publishing those papers selected. Members will be notified of the Board's decision not later than April 25.

Marriages

Roslyn Applebaum, of Bronx, N.Y., to Ernest Hurwitz, Yonkers, N. Y.
Joan Berkoff, of Norwichtown, Conn., to Harry A. Hansen, Norwich, Conn.
Frances Bock, of Brooklyn, N. Y., to Erwin M. Kaplan, Brooklyn.
Nancy Cameron, of Greenfield, Mass., now Mrs. Nancy C. Dilworth, Cincinnati, Ohio.
Margaret E. Canty, of New Haven, Conn., to Bruce E. Gordon, Spokane, Wash.
Bernice K. Carr, of Wilmington, Del., to Walter C. Sobers, Wilmington.
Katherine A. Laughlin, of New York, N. Y., to Michael Antonelle, Jr., New York.
Eunamae Pullie, of Minneapolis, Minn., now Mrs. Eunamae P. Glanton, Minneapolis.
Paula Whiting, of Boston, Mass., to Richard Martin, Stow, Mass.
Carol L. Williams, of Kentfield, Calif., to J. J. Waterbury, Arlington, Va.

Important Notice

Increased postal rates and rising production costs have made it necessary to increase subscription rates.

The *Review* has not increased its rates in 10 years! However, costs of publication and mailing now exceed income—and the new rate change will take effect on

May 1, 1959

Nonmember subscriptions	$7.00
Foreign subscriptions (including Canada)	8.00
Single issues	1.00

Had you planned to complete your volumes of the *Review*—get back copies for your library, school, or a research project ? ?

Order *before* May 1st

and take advantage of the old rates.

World Confederation

(continued from page 169)

the World Confederation for Physical Therapy 20 Marks
Nonmembers 30 Marks

3. Name of Course
Connective Tissue Massage

Location of Course
Krankengymnastikschule an der Universität Freiburg/Br.

Dates of Course
Aug. 17 through Sept. 3, 1959

Fee
Members of Organizations belonging to the World Confederation for Physical Therapy 120 Marks
Nonmembers 150 Marks

(Left to right) Blanche Marvin, retiring head physical therapist; Sister Ann Denise, C.S.J., Miss Marvin's successor; and Gerald Hawn, a patient.

Charter Member Honored Upon Retirement

Blanche Marvin, Charter Member of the American Physical Therapy Association and an active member of the Western Missouri Chapter, was honored by her employer on Nov. 24, 1958 when a "Miss Marvin Day" was proclaimed by St. Joseph Hospital, Kansas City, Missouri.

Several days before "Miss Marvin Day" posters were placed throughout the hospital announcing an informal reception honoring Miss Marvin. The entire hospital staff was invited. Aides, maids, nurses, therapists from other hospitals, and personal friends attended the afternoon party. Earlier in the day the staff physicians had paid their respects to Miss Marvin for her 23 years of faithful service to St. Joseph Hospital. In a letter Sister Ann Denise, newly appointed chief physical therapist and an active member of the APTA, relates "Miss Marvin received many presents, including an orchid and a white-gold wrist watch.... It has indeed been a pleasure and privilege for me to work with Miss Marvin...."

Miss Marvin became a member of the Association during the organizational period in 1921 after serving as an Army Reconstruction Aide during World War I. The American Physical Therapy Association holds in high regard all Charter Members such as Miss Marvin and is pleased to pay tribute to her upon her retirement. Miss Marvin has maintained 38 years of active membership in the APTA and is now eligible for life membership.

EDITOR'S NOTE: The Association will be pleased to hear of similar honors bestowed upon Charter Members. It is the desire of the Association to honor those who have contributed to the birth and growth of the APTA. Only through an awareness of such events as the retirement party for Miss Marvin can we accurately record our everchanging history.

New Student Members

College of Medical Evangelists
Barry E. Stimmel

Stanford University
Leslie W. Rader, Jr.

University of Connecticut

Thyra Corbitt
Jane Correia
Joan Foster
Jean Krashefski
Marilyn Leipner
Sarah A. Streeter

University of Minnesota
Yaroslava Riabokin

Nominations for Directors

Nominating Committee candidates will appear in the April issue. The full report of the Nominating Committee was published in the February *Review*, page 98.

FOR DIRECTOR

(Three to be elected to serve terms of three years)

Arthur T. Brown, Physical Therapist, Newark Board of Education, Newark, New Jersey

Association member since 1949

Chapter positions: President, New Jersey; Treasurer, New Jersey

Dorothy Fredrickson, Director, Physical Therapy Department, Vanderbilt University Hospital, Nashville

Association member since 1930

Chapter positions: President, Massachusetts; Secretary, Massachusetts; Chairman, Public Laws Committee, Tennessee

National positions: Director; Vice President; Chairman, Education Committee; Chairman, Committee to Study Nature and Functions of Department of Professional Services

Esther Gillette, Supervisor, Larimer County Hospital, Fort Collins, Colorado

Association member since 1931

Chapter positions: President, Wyoming; President, Colorado; President, Oregon; Director, Oregon; Chief Delegate, Oregon; Vice President, Oregon

Florence S. Linduff, Chief Physical Therapist, Veterans Administration, Washington, D.C.

Association member since 1937

Chapter positions: President, District of Columbia; Chairman, Membership Committee, District of Columbia

National positions: Director; Chairman, Education Committee; Chairman, Nominating Committee; Member, Program Planning Committee, Second Congress, World Confederation for Physical Therapy

Mary Elizabeth Rexroad, Physical Therapy Consultant, Oklahoma Commission for Crippled Children, Oklahoma City

Association member since 1946

Chapter positions: Director, Oklahoma; President, Oklahoma; Vice President, Oklahoma; Chairman, Legislative Committee, Oklahoma

National positions: Member Committee to Study Nature and Function of Department of Professional Services; Chairman, Advisory Committee to Department of Professional Services

Helen M. Stewart, Assistant Chief, Physical Therapy, Highland View Hospital, Cleveland

Association member since 1949

Chapter positions: Treasurer, Ohio; Secretary, Northeast District, Ohio; Chairman, Northeast District, Ohio; Chairman, Program Committee, Northeast District, Ohio; Chairman, Exhibit Committee, Northeast District, Ohio; Chairman, Inter-Professional Relations Committee, Northeast District, Ohio; Chairman, Exhibit Committee, Ohio, Co-Chairman, Legislation Committee, Ohio

Proposed Amendments to the American Physical Therapy Association Bylaws

To Be Considered by the House of Delegates, June, 1959

The following amendments to our Bylaws will be presented for action by the House of Delegates at Minneapolis, June, 1959.

A resolution introduced by the Northern California Chapter and unanimously adopted by the House of Delegates in Seattle, June, 1958, requested that an amendment to Bylaw III, Section 6—Dues and Special Assessments, be drawn up and presented to the House of Delegates in Minneapolis in 1959. The revision of the dues structure as required by the Northern California resolution has been incorporated in the proposed amendments which follow. (See Summary of Meeting of House of Delegates, November, 1958, issue of the *Review*, page 774.)

The Executive Committee, acting for the Board of Directors, during its meeting December 4-6, 1958, charged the Finance Committee of the Association with a further study of the Association's financial structure to determine the need for a possible increase in dues at this time. The report of the Finance Committee will be considered by the Board of Directors during its pre-Conference meeting in Minneapolis, June, 1959. Although the Board of Directors at this time does not oppose an increase in dues, it is not on record as endorsing the specific provisions of the Northern California resolution.

All other changes which concern the functions of the Association related to professional education, life membership, student membership, and a new section on election procedures have the full endorsement of the Executive Committee. In order to acquaint the members with the thinking of the Executive Committee a column of explanations has been included.

Every member is urged to study these proposed amendments and help his chapter instruct delegates as to how to vote in June.

(continued on next page)

PRESENT	PROPOSED	EXPLANATON
Bylaw II—Functions	**Bylaw II—Functions**	**Bylaw II—Functions**
(b) To promote physical therapy by defining and developing sound standards of physical therapy education and by cooperating in planning the development of adequate facilities of good organization, administration and curricula.	(b) *To provide leadership in physical therapy education by: promoting sound principles of education; stimulating the development of programs and opportunities for growth; guiding and evaluating the organization and administration of curricula; and directing the maintenance of standards.*	(b) The proposed revision was drafted by the Advisory Committee to the Department of Professional Education, revised and approved by the Board of Directors in June, 1957. An attempt has been made to amplify the intent of the present Bylaw, revising the contents to show clearly the acceptance of the professional responsibility to provide leadership in physical therapy education in the ways noted. The responsibility of evaluating curricula is stated as well as that of directing the maintenance of standards.
Bylaw III—Membership	**Bylaw III—Membership**	**Bylaw III—Membership**
Section 3—Qualifications and Election of members other than Active Members. (a) Life Members Upon application, an active member, who has been such for twenty or more years, shall be eligible for life membership on retirement from practice. A charter member, as defined in Article II of the previous Bylaws, is eligible, upon application, for life membership after twenty years of active membership and on retirement.	*Section* 3—Qualifications and Election of members other than Active Members. (a) Life Members Upon application *and approval of the Board of Directors*, an active member who has *retired from gainful employment* and has *completed thirty years* of active membership, shall be eligible for life membership. A charter member, as defined in Article II of the previous Bylaws, is eligible, upon application for life membership after thirty years of active membership and on retirement from *gainful employment.*	*Section* 3—Qualifications and Election of members other than Active Members. (a) Life Members The additional wording will provide for uniformity in policy since the Board of Directors has a prerogative approval power in the other membership classifications. As the profession develops and as members mature, there are, and will be, increasing opportunities for members to become engaged in a phase of work which is related to physical therapy but which does not include actual treatment of patients. As the Bylaw section now reads, a member who has been an active member for twenty years and enters employment not concerned with the treatment of patients, may consider himself eligible for life membership. This proposed change embraces the philosophy that life membership is a position of honor and respect. The active member who accepts employment in an unrelated field may be eligible for inactive membership. If the nature of his work warrants a continued active interest in Association affairs, this member, during his years of gainful employment, should continue active membership.
Section 4—Rights of Members Active members and life members who are in good standing are entitled to all the rights, benefits and privileges of this Association, including the right to register at sessions of the society, to attend and participate in the general meetings held therein, to vote, to hold office and to serve on committees subject to the qualifications set by these Bylaws	*Section* 4—Rights of Members Active members and life members who are in good standing are entitled to all the rights, benefits and privileges of this Association, including the right to register at sessions of the society, to attend and participate in the general meeting held therein, to vote, to hold office, and to serve on committees subject to the qualifications set by these Bylaws for	*Section* 4—Rights of Members Due to the increase in the number of life memberships (from 65 in May 1958 to 77 by October 1958) and increased costs of publication it has been recommended by the Finance Committee and approved by the Executive Committee that life members no longer receive free copies of the *Review*. A proposed change in Section 6—Dues and Special Assess-

PRESENT	PROPOSED	EXPLANATON
Bylaw III—Membership	**Bylaw III—Membership**	**Bylaw III—Membership**
for the particular offices or committees, and to receive a copy of the Association's official publication as issued. All other members who are in good standing possess all the incidents and rights of membership except the right to vote and to hold office or serve on standing committees or to imply by any means that they are active members.	the particular offices or committees. *Active members who are in good standing are entitled to receive a copy of the Association's official publication as issued.* All other members who are in good standing possess all the rights of membership except the right to vote and to hold office or serve on standing committees or to imply by any means that they are active members.	ments provides that life members may subscribe to the *Review* at a cost of $5.00.
Section 6—Dues and Special Assessments	*Section* 6—Dues and Special Assessments	*Section* 6—Dues and Special Assessments
On or before May 1 of each year the dues noted below shall be forwarded to the Association:	On or before May 1 of each year the dues noted below shall be forwarded to the Association. *The records of the Association's central office with respect to the payment of dues shall be evidence of the correctness of the facts. Any member whose dues for that year have not been received by August 1 shall be suspended from membership until such time as current dues are received.*	As an editorial change for clarity the phrases have been inserted before the schedule of dues, in that these statements apply to all classes of memberships.
(a) Active members—$20.00	(a) Active members—*$25.00.*	(a) In June, 1958, the House of Delegates unanimously approved the motion to consider amending the Bylaws to increase the dues for active members from $20.00 to $25.00.
(b) Student members—$2.00 and an additional $4.00 if they subscribe to the official publication of the Association.	(b) Student members—$2.00 and an additional $4.00 if they subscribe to the official publication of the Association.	
(c) Life and Honorary members—No dues.	(c) (New Section)	(c) Life members
	Life members—No dues. *A subscription to the official publication of the Association shall be $5.00.*	This change becomes necessary if the proposed change in Bylaw III, Section 4—Rights of Members, is adopted by the House of Delegates.
(d) Associate members—$5.00.	(d) Honorary members—No dues.	(d) To conform with adoption of (c).
	(e) Associate members—$5.00.	(e) Formerly subsection (d).
(e) Inactive members—$3.00 and an additional $4.00 if they subscribe to the official publication of the Association.	(f) Inactive members—*$4.00* and an additional *$5.00* if they subscribe to the official publication of the Association.	(f) Formerly subsection (e). As in (a) the 1958 House of Delegates voted to consider an inactive dues increase from $3.00 to $4.00.
		The change in subscription price to the *Review* was recommended by the Finance Committee and has been approved by the Executive Committee to meet increased costs in publication.
Any member whose dues for that year have not been received by August 1 shall be suspended from membership until such time as the current dues are received. The records of the Association's central office with respect to the payment of dues shall be evidence of the correctness of the facts. The dues of a member elected to membership after October 1 shall for the year of his election be one half the annual dues. The annual dues of an active member shall be allocated as follows: $3.00 to the appropriate component chapter; $5.00 to the Association's official publication; and $12.00 to the national office of the Association. The dues of all other types of members	The dues of a member elected to membership after October 1 shall for the year of his election be one-half the annual dues. *The dues of a student member transferring to active membership during the fiscal year of graduation shall be one-half the annual active membership dues.*	This addition provides for a lower active membership fee during the fiscal year of graduation and will be equitable for all graduates regardless of the date of graduation.
	The annual dues of an active member shall be allocated as follows: *$5.00* to the appropriate component chapter; $5.00 to the Association's	Incorporated from the resolution adopted by the House of Delegates in June, 1958, whereby the component chapter and the National Office

PRESENT	PROPOSED	EXPLANATON
Bylaw III—Membership	**Bylaw III—Membership**	**Bylaw III—Membership**
shall be allocated as the Board of Directors may determine.	official publication; and *$15.00* to the National Office of the Association. The dues of all other types of members shall be allocated as the Board of Directors may determine. (Remainder of Section is unchanged.)	will have an increased allocation from the dues of active members.
Bylaw VI—House of Delegates	**Bylaw VI—House of Delegates**	**Bylaw VI—House of Delegates**
Section 6—Election Procedures	*Section 6*—Election Procedures	*Section 6*—Election Procedures
New Section (present Section 6 becomes Section 7).	(a) A President, First Vice President, Second Vice President, Secretary, Treasurer, shall be elected triennially by majority vote to serve for three years or until their successors are elected. Ten directors shall be elected in accordance with Bylaw V. Five members of the Nominating Committee shall be elected in accordance with Bylaw XI. (b) Election by ballot shall be carried out by delegates voting either in person or by proxy as provided in Bylaw VI. (c) A list of nominees shall be published by the American Physical Therapy Association and distributed to the members at least two months prior to the Annual Conference. (d) At the first meeting of the House of Delegates the First Vice President shall appoint and instruct tellers who shall act also as inspectors of election. (e) Each delegate shall be identified as a delegate by the tellers and shall receive the number of ballots to which he is entitled. (f) In the case where members vote for two or more candidates for an office, the number of candidates needed to fill the positions who receive the highest number of votes shall be declared elected. In the event of a tie, reballoting shall be held to determine election.	These Election Procedures were adopted June, 1958, at the House of Delegates and are presented for Bylaw adoption now.
	Section 7—Special Committees.	Insertion of a new section requires an editorial change of renumbering the remaining sections to 7, 8, 9, and 10. (The contents of these sections are unchanged.)
	Section 8—Vacancies during Meetings.	
	Section 9—Report of Proceedings.	
	Section 10—Memorials and Resolutions.	
Bylaw X—*Physical Therapy Review*	**Bylaw X—*Physical Therapy Review***	**Bylaw X—*Physical Therapy Review***
Section 1—Name		
The *Physical Therapy Review* shall be the official journal of this Association.		

PRESENT	PROPOSED	EXPLANATON
Bylaw X—*Physical Therapy Review*	**Bylaw X—*Physical Therapy Review***	**Bylaw X—*Physical Therapy Review***
Section 2—Editorial Board	*Section* 2—Editorial Board	*Section* 2—Editorial Board
There shall be an editorial board consisting of an editor-in-chief and at least two associate editors who shall	There shall be an editorial board consisting of *at least three* associate editors, *one of whom shall be designated chairman of the board*, who shall	In June, 1958, the Board of Directors, upon recommendation of the editorial board, appointed a consultant in the National Office to serve as editor-in-chief.
(a) Be members of the Association.	(a)-(b) No changes in text.	
(b) Be appointed biennially by the Board of Directors.		
(c) Be responsible for the publication.	(c) Be responsible for the *development of the* publication.	Subsection (c) has been reworded to define more clearly present responsibilities of the editorial board.
	(d) Be responsible for reports to the Board of Directors and the House of Delegates upon request.	(d) (New Section) The editorial board has traditionally provided these reports.

Education

Staff Change

Newest addition to our National Office staff is an old friend, Helen Hickey Klein, who rejoined the staff January 1 as a full time Consultant in the Department of Professional Education. We're happy that the personal considerations which had previously led her to give up a full-time position have now changed and she is again available to continue her services to the Association.

Student Column

The Aphasic Patient

Mrs. Margaret Lahey, speech teacher at the University of Connecticut, spoke to the PT Club at the December 10th meeting. Her subject was aphasia, or motor and sensory language disturbances caused by brain lesion. She explained that there are many types of aphasia, and that the site of the lesion is the factor that determines the characteristics of the aphasia.

One type, visual agnosia, occurs when the lesion is in the association area of vision; the affected person is unable to recognize objects with the identifying word. If the therapist points to a desk and says, "desk," the aphasic can repeat the word, but cannot in his mind associate it with a desk. Another type of aphasic patient can understand words and associate them with the right objects, but cannot repeat the words. A person with apraxia is unable to carry out a skilled movement such as driving a car.

Mrs. Lahey identified, as the cause of aphasia, a lesion of the brain which involves centers of association fibers and gave as examples cerebral thrombosis, hemorrhage, embolism, neoplasm, subdural hematoma, trauma, and vascular anomalies.

In the treatment of aphasia, the therapist finds what sounds the patient can make and begins with these sounds in forming words. A mirror and tape recorder are helpful. The therapist shows the patient how to move the lips and tongue to form a word. If the patient becomes tense and worried over his inability to repeat the sound or word after several attempts, the therapist temporarily leaves that phase of the lesson. Mrs. Lahey recommended that commands be kept simple and that it was best to begin with a few easily spoken words.

New Officers at University of Connecticut

On January 14 the University of Connecticut PT club met to elect officers for the coming year. The new officers are Miller Dayton, President; Gail Peters, Vice President; Virginia Chase, Secretary; and Joan Foster, Treasurer.

SUZANNE CHAFFEE
Reporter

SHORT TERM COURSES FOR GRADUATE PHYSICAL THERAPISTS

Title of Course	*Sponsor of Course*	*For Details Contact*	*Dates of Course*
Cerebral Palsy	The North Carolina Cerebral Palsy Hospital Durham, North Carolina	Dr. Lenox D. Baker Medical Director No. Carolina C. P. Hosp. Durham, North Carolina	Courses arranged according to individual need—duration 3 months
Physical Therapy in the Care of Neuromuscular Disease	Georgia Warm Springs Foundation Warm Springs, Georgia	Robert L. Bennett, M.D. Medical Director Ga. Warm Springs Found. Warm Springs, Georgia	January April October
Postgraduate Course in Technics of Treatment	Children's Rehabilitation Institute for Cerebral Palsy Reisterstown, Maryland	Christopher H. Wiemer Executive Director Children's Rehab. Inst. Reisterstown, Maryland	Apr. 6—June 19, 1959 July 6—Sept. 18, 1959 Oct. 5—Dec. 18, 1959
Advanced Course in Physical Rehabilitation Methods	NYU-Bellevue Med. Cen. and NYU Sch. of Education	Mrs. Edith Lawton, Dir. Courses for Physical Therapists Institute of P. M. & R. 400 E. 34th Street New York City, N. Y.	Apr. 27—May 29, 1959
Technics of Neuromuscular Reeducation	California Rehabilitation Center Vallejo, California	Margaret Knott Chief P. T. Calif. Rehab. Center Vallejo, Calif.	January 1 April 1
Functional Bracing of the Upper Extremities	U. of California and U. S. Office of Vocational Rehabilitation	Prosthetics Education Program Rm. B4-229, Medical Center University of California at Los Angeles 24, California	Apr. 20—24, 1959
Upper Extremities Prosthetics	Postgraduate Medical School & College of Engineering New York University	Prosthetics Ed. Program New York University Postgrad. Medical School 550 First Avenue New York 16, N. Y.	May 18—29, 1959
	U. of California and U. S. Office of Vocational Rehabilitation	Prosthetics Education Program Rm. B4-229, Medical Center University of California at Los Angeles 24, California	June 1—5, 1959
Principles and Practice of Geriatric Rehabilitation	N.Y. Medical College-Met. Hosp. Center, U.S. O.V.R. and N.Y.S. Dept. of Health	Dr. Jerome S. Tobis Dept. of Phy. Med. and Rehab., N.Y. Medical College 1 East 105 St. N.Y. 29, N.Y.	April 6—17, 1959
Physical Preparation for Childbirth	U. of Mississippi, Medical Center, Dept. of Obstetrics and Gynecology Jackson, Mississippi	Mabel L. Fitzhugh Research Associate in Obstetrics U. of Mississippi Jackson, Mississippi	May 11—15, 1959
Physical Medicine and Rehabiltation in Surgical Conditions	U. of Colorado Medical Center, Office of Postgraduate Medical Education 4200 East Ninth Avenue Denver 20, Colorado	Jerome W. Gersten, M.D. Director, Dept. of P.M. & R. U. of Colorado Denver 20, Colorado	May 13—15, 1959

Ohio State University

All members of the 1958-1959 Physical Therapy Class at Ohio State are now student members of the American Physical Therapy Association. As members we receive the *Physical Therapy Review* and attend the Ohio Central District Chapter meetings. Two of the most informative meetings included a lecture on pool therapy with demonstrations, and another on cerebral palsy.

The first meeting which most of us attended was held at Children's Hospital. During the discussion on pool therapy the pool was used to demonstrate the advantages of hydrotherapy. Two recent physical therapy graduates presented three polio patients using floats, parallel bars, and the exercise table. The demonstration was enthusiastically received by the Senior Class members.

The second meeting was held at the Columbus Cerebral Palsy Center where equipment for the preschool and school-age cerebral palsied child was shown. Speakers representing each area on patient care in the Columbus program, contributed to the discussion. As we are attending a seminar series on cerebral palsy this quarter, we found these talks of special interest. Ohio's much needed law governing physical therapy was also discussed.

Recently hypnosis was the topic of a guest lecturer at the University. Hypnosis is employed in the Physical Medicine Department as an analgesic technic. Through its use, the painful procedure of removing dressings from patients who have suffered burns can be accomplished with ease. While under hypnosis the patient having painful joints becomes more tolerant to passive range of motion exercises. The speaker hypnotized four class volunteers who showed no reaction to pain while in the hypnotic state.

SUE ROCKER
VIRGINIA MATSON

A Television Program

Late in November Senior physical therapy students participated for a brief moment on T.V. A local television station which has been presenting a series of programs on various branches of medicine, included our Physical Medicine Department in the series. The program was an hour long but for most of the participants it began three hours before show time and lasted quite awhile after the final commercial.

It was an evening-out-during-the-week for us; our role in the program consisted of appearing studious while an instructor demonstrated ultrasound on a fellow student. VIRGINIA MATSON

Student Representatives 1958-1959

California
Childrens Hospital Society
Lois Riffle
College of Medical Evangelists
Ed Haffner
Marilyn Harper
Stanford University
Beverly Webster
University of California
Harrie J. Frost

Colorado
University of Colorado Medical School
Elaine Iverson

Kansas
University of Kansas Medical Center
Jack G. Goodman

Massachusetts
Boston University Sargent College
Doris A. Raab
Julianna M. Sullivan
Simmons College
Jane Drooker

Michigan
University of Michigan
Vernice Moody

Minnesota
University of Minnesota
Irene D. Salk

Missouri
St. Louis University
Barbara Smith
Washington University
Patsy Newton

New York
Albany Medical College
Paula Jean Crooks
Columbia University
Toby Opolinski
New York University
Patricia Malseed
Nora A. Ramirez
University of Buffalo
Ann Calkins

North Carolina
Duke University Medical Center
Barbara Day

Ohio
Frank E. Bunts Educational Institute
Betty Dillon
Ohio State University
Virginia Matson

Oklahoma
University of Oklahoma
Jeanne McClelland

Puerto Rico
School of Physical and Occupational Therapy
Lydia Cosme

(*continued on next page*)

Texas

Baylor University Hospital
Lee Amundson
Hermann Hospital
Judy McInnis
Brooke Army Medical Center
Beverly Hubbard

Wisconsin

Marquette University School of Medicine
Mary Varney

Good Manners in Medical Writing

Readers are entitled to expect educated writing from medical authors, members of what Osler called, in the language of his day, "the profession of a cultivated gentleman." They are entitled to expect that facts and ideas will be clear in a writer's mind before he commits them to paper, and that he will try to express them in the best and most appropriate words. This is just a matter of good manners, but, as Sir Arthur Quiller-Couch has said, "Style in writing is much the same thing as good manners in other human intercourse." We must consider the reader and put ourselves in his place if we are to communicate with him effectively. We shall then see that it is rather cheap to offer him unreliable data or muddled ideas; that it is presumptuous to expect him to understand our personal jargon words and phrases and our unorthodox abbreviations; that it is offensive to confront him with crudities of expression and the ambiguities inseparable from faulty grammar and sentence construction.

in *The Medical Journal of Australia*
July 26, 1958, page 131

Overconscientious Anonymity

To refer to an article of my own . . . may suggest I am immodest. That is a risk of using the first person. Yet avoiding "I" by impersonality and circumlocution leads to dullness, and I would rather be thought conceited than dull. Articles are written to interest the reader, not to make him admire the author. Overconscientious anonymity can be overdone, as in the article by two authors which had a footnote, "Since this article was written, unfortunately one of us has died."

RICHARD ASHER, M.D.
in *British Medical Journal*
Aug. 23, 1958, page 503

A Rehabilitation Conference for Latin-American Countries

The Commonwealth of Puerto Rico, in association with the International Society for the Welfare of Cripples, is organizing a Fourth Inter-American Conference on Rehabilitation, which will be held in San Juan, May 20-23, 1959.

This is a fundamental part of the Society's over-all program, designed to raise the level of rehabilitation knowledge everywhere. The four day session will bring together professional, governmental, and civic groups from Caribbean and Latin-American nations, concerned alike with the expansion and improvement of services for disabled children and adults. Delegations from the United States and Canada are also expected to participate.

The program of this regional gathering is being developed around the theme "Rehabilitation —A Dynamic Process of Teamwork" and will emphasize the need for developing educational opportunities and processes throughout the Latin-American area. Speakers will deal with the social and vocational aspects of rehabilitating the physically handicapped, as well as the benefits of mental hygiene and special education. Delegates will focus special attention on means of increasing the exchange of experiences and training facilities between neighboring nations.

Puerto Rico's rehabilitation leaders have formed a Program Committee under the chairmanship of Dra. Maria Elisa Diaz, School of Social Work, University of Puerto Rico. Guillermo Atiles Moreu, Manager, State Insurance Fund, has been named Executive President of the Conference. Inquiries and registrations should be sent to Dr. Herman J. Flax, Executive Secretary of the Conference, Professional Building 301, Santurce 34, Puerto Rico.

Index to Current Literature

(*continued from page* 142)

POLIOMYELITIS

Rehabilitation of the Patient with Long-Term Respiratory Paralysis. Harold N. Neu, J. Am. M. Ass., 168: 1610-1617, Nov. 22, 1958

Thrombophlebitis in Patients with Severe Poliomyelitis. B. G. Ferris, Jr., B. McNichol and G. Sutin, N. England J. M., 259: 971-973, Nov. 13, 1958

REHABILITATION

A Two-Year Follow-up Study of the Patients Admitted to the Rehabilitation Centre of the Hospital of the University of Pennsylvania. Arthur J. Heather, Am. J. Phys. M., 37: 237-255, October 1958

MISCELLANEOUS

Surprising Growth of Voluntary Health Insurance in Great Britain. J. F. Follman, Jr., J. Am. M. Ass., 168: 1641-1645, Nov. 22, 1958

The Connective Tissues in Medicine and Surgery. Jerome Gross, Bull. N. York Acad. M., 34: 701-715, November 1958

Treatment of Injuries to Athletes. Don H. O'Donoghue, Northwest M., 57: 1433-1438, November 1958

Schools Offering Courses in Physical Therapy

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

Schools offering the four year program leading to a baccalaureate degree accept high school graduates and transfer students. Schools offering the 12 to 16 months' program leading to a certificate accept students who have completed all or most of their undergraduate work providing they meet certain course requirements. Recipients of a degree and/or certificate have equal professional status. For specific information regarding each school's entrance requirements, curriculum, tuition and other fees, write to the physical therapy director indicated below. All students should investigate course requirements *early*.

	Degree	*Certificate*
CALIFORNIA		
Mary J. Dodge School of Physical Therapy Childrens Hospital Society 4614 Sunset Boulevard Los Angeles 27	‡	†
Ronald A. Hershey School of Physical Therapy College of Medical Evangelists Loma Linda	†	†
Lucille Daniels Division of Physical Therapy Stanford University Stanford (Palo Alto)	†	†
Margery L. Wagner Curriculum in Physical Therapy University of California The Medical Center San Francisco 22	†	†
Charlotte W. Anderson Department of Physical Therapy University of Southern California Los Angeles 7	†	†
COLORADO		
Dorothy Hoag Curriculum in Physical Therapy University of Colorado Medical School Denver 20	†	†
CONNECTICUT		
James M. Bauer Acting Director School of Physical Therapy U 101 University of Connecticut Storrs	†	
ILLINOIS		
Elizabeth C. Wood Course in Physical Therapy Northwestern University Medical School 303 East Chicago Avenue Chicago 11	†	†
IOWA		
Olive C. Farr Physical Therapy State University of Iowa Hospitals Iowa City		†
KANSAS		
Ruth G. Monteith Section of Physical Therapy Education University of Kansas Medical Center Kansas City 12	†	†
LOUISIANA		
(Not accepting students during 1958-1959) Director School of Physical Therapy Charity Hospital of Louisiana New Orleans 12		†
MARYLAND		
Gladys E. Wadsworth, Ph.D. Department of Physical Therapy School of Medicine University of Maryland Baltimore 1	†	
MASSACHUSETTS		
Adelaide L. McGarrett Physical Therapy Department Boston University Sargent College University Road Boston 15	†	†
Constance K. Greene Department of Physical Therapy *Bouvé-Boston School, Tufts University Medford 55	†	
Shirley M. Cogland *Program in Physical Therapy Simmons College-Children's Hospital 300 Longwood Avenue Boston 15	†	†
MICHIGAN		
Virginia Wilson Curriculum in Physical Therapy The University of Michigan University Hospital Ann Arbor	†	†
MINNESOTA		
Darrell D. Hunt School of Physical Therapy Mayo Clinic Rochester		†
Wilbur L. Moen Course in Physical Therapy University of Minnesota 860 Mayo Memorial Building Minneapolis 14	†	

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

	Degree	Certificate
MISSOURI		
Sr. M. Imelda, S.S.M. Department of Physical Therapy St. Louis University 1325 South Grand Boulevard St. Louis 4	†	
Beatrice F. Schulz Department of Physical Therapy Washington University School of Medicine 660 So. Kingshighway St. Louis 10	†	
NEW YORK		
Dorothy L. McLaughlin Albany Medical College Division of Physical Therapy Albany 8	‡	†
Mary E. Callahan Courses for Physical Therapists Columbia University College of Physicians & Surgeons 630 West 168th Street New York 32	†	†
Elizabeth C. Addoms Physical Therapy Curriculum School of Education, New York University Washington Square East New York 3	†	†
Mildred F. Heap Program in Physical Therapy University of Buffalo 3435 Main Street Buffalo 14	†	†
NORTH CAROLINA		
Helen Kaiser Division of Physical Therapy Box 3403, Duke University Medical Center Durham		†
Margaret L. Moore Section of Physical Therapy School of Medicine University of North Carolina Chapel Hill	†	
OHIO		
Robert D. Kruse, D.P.E. Course in Physical Therapy Frank E. Bunts Educational Institute 2020 East 93rd Street Cleveland 6		†
Gladys G. Woods School of Physical Therapy Ohio State University University Hospital Columbus	†	†

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

	Degree	Certificate
OKLAHOMA		
Thelma Pedersen School of Physical Therapy University of Oklahoma Medical Center Oklahoma City 4	†	†
PENNSYLVANIA		
Dorothy E. Baethke Division of Physical Therapy University of Pennsylvania 3901 Pine Street Philadelphia 4	†	†
Kathryn Kelley Curriculum in Physical Therapy D. T. Watson School of Physiatrics Leetsdale	‡	†
PUERTO RICO		
(All classes given in Spanish) Lutgarda V. Piñeiro School of Physical & Occupational Therapy Candelaria & Mandry Streets Stop 22, Santurce	†	†
TEXAS		
Doris E. Porter Grady Vaughn School of Physical Therapy Baylor University Hospital Dallas 1	†	†
Cecelia J. Lee School of Physical Therapy Hermann Hospital Houston 25	‡	†
Ruby Decker School of Physical Therapy The University of Texas Medical Branch Galveston	†	†
VIRGINIA		
Susanne Hirt School of Physical Therapy Medical College of Virginia Richmond 19	†	
WISCONSIN		
Beth J. Phillips Curriculum in Physical Therapy Marquette University School of Medicine 561 North 15th Street Milwaukee 3	†	
Margaret Kohli Course in Physical Therapy University of Wisconsin Madison 6	†	
U. S. ARMY MEDICAL SERVICE		
*Physical Therapy Course Army Medical Service School Brooke Army Medical Center Fort Sam Houston, Texas Write to: The Surgeon General Department of the Army Washington 25, D.C. Att.: Personnel Division		†

Please direct all inquiries regarding tuition, entrance requirements and other specific information to the school and *not* to the American Physical Therapy Association.

Abstracts

Intervertebral Disc Removal and Spine Fusion

E. L. Compere, W. Schnute, C. L. Compere and R. G. Thompson (Chicago, Ill.), AM. J. SURG., 96: 624-630, November 1958

At the present time there are two distinct schools of thought on the subject of combining spine fusion procedures with disk removals. Some surgeons believe that removing the disk, and thereby relieving the sciatica, is all that is indicated. Other surgeons, however, believe that only to remove the protruding disk material is to leave behind a major percentage of the basic spinal pathology present; namely, instability of the spine, a loss of intervertebral joint space, settling and subluxation of vertebral facets, and the subsequent development of traumatic arthritis.

The authors of this article conclude that a spine fusion procedure should be performed upon all patients from whom a ruptured or herniated disk is removed. One hundred fifty-four patients who had spine fusion following disk surgery were reviewed, and in 120 patients the end results were studied. Of this group of 120 patients, 44.1 per cent had excellent results, 26.6 per cent had good results, 17.5 per cent were satisfactory, and 11.8 per cent poor. The number of patients who complained of any residual back pain was 17 per cent. In this study the added spine stabilization procedure did not show any increased incidence of morbidity as compared to the simple procedures. The average number of days in the hospital (18.4 days) as well as the length of time away from productive employment were not materially lengthened over that when only a simple disk excision was performed.

It is noted that, although some of their patients exhibit a pseudoarthrosis, these spines are remarkably stable due to dense fibrous tissue formation resulting in a decrease in back pain. Back ache is the cause of more chronic disability than nerve pain from sciatica.

Pantopaque was found to be present in the subarchnoid space in significant amounts as long as 10 years after myelography; however, no significant reactions were noted.

The authors reviewed pertinent literature, reporting end results in (1) patients in whom only a simple disk removal without spine fusion was performed, (2) patients in whom a combined procedure was performed, and (3) comparison studies of both the single and the combined procedures.

The Physician's Responsibilities in the Management of Rheumatoid Arthritis

Leonard F. Bender, and James W. Rae (Department of Physical Medicine and Rehabilitation, School of Medicine and University Hospital, Ann Arbor, Michigan), J. MICHIGAN M. SOC., 57: 1438-1440, October 1958

In spite of new discoveries and advances in the treatment of rheumatoid arthritis, the most important part of the management of patients with this disease today is prevention, or minimizing of deformity, and the maintenance or improvement of function. The numerous remedies that have been prompted for use in arthritis tend to detract from the appreciation of the value of physical treatment in preventing crippling and disability. A high percentage of patients fail to carry out any program, or go at it half-heartedly, or eventually tend to lose interest in even a carefully planned and effective schedule of treatment.

There are various factors contributing to the frequent failure to utilize physical treatment adequately in the management of rheumatoid arthritis. Some of these are personal concerns of the patient, situations in which the physician may offer counsel but which otherwise are beyond his control. Other factors revolve about the physician's failure to take into account the patient's emotional and social status as well as his physical condition.

Proper management of rheumatoid arthritis by physicians includes: (1) understanding and conveying to the patient the importance of established principles of care, (2) prescribing adequate physical measures, (3) scheduling appropriate daily activities and proper rest, (4) instructing the patient fully, and (5) providing for adequate follow-up care and evaluation.

Physical therapy (consisting of heat, massage, and therapeutic exercise) must be combined with other established principles of care, such as increased general rest, adequate local rest of the involved joints, avoidance of strain and irritation of the involved joints, intelligent use of splints, supports, and shoes, and other medical agents (steroids, gold salts, etc.) and surgical procedures as indicated. Daily home treatment prescribed and supervised regularly by a physician is an essential part of an adequate treatment program.

In arthritis, heat is used for its analgesic, muscle relaxing, and vasodilating effects. Massage, when properly applied, can increase the venous blood flow or lymph flow, but it is used primarily for its sedative and muscle-relaxing effects. Therapeutic exercises are designed to increase strength or endurance of muscles. Exercise is the most important part of the physical therapy program. It is essential that exercises be performed properly. Several short periods of exercise daily are better than one long period. If pain persists more than two hours after exercise it is an indication that the exercise was too vigorous.

Every patient with rheumatoid arthritis should be placed on a schedule of activity which provides a balance between rest and exercise.

The physician plays a large role in motivating the patient to carry out an adequate treatment program. He must help the patient gain insight into what can be accomplished by physical treatment. Instructions should be geared to the paticnt's level of understanding, demonstrated and clearly written.

Adequate follow-up care in some cases may mean the difference between success and failure of the treatment: moreover, it may provide the key to the difficult problem of motivation of the patient in his long and arduous program of home care.

Vasomotor Responses to External Stimuli in Paraplegic Patients

Peter Beaconsfield and A. David Messent (Department of Surgery, Chicago Medical School, Chicago, Ill.), ANGIOLOGY, 9: 306-310, October 1958

The authors measured the cardiovascular responses to external stimuli (ice or pin prick) in 10 paraplegic patients. Cutaneous stimuli below the level of the lesion produced a more marked and widespread vasomotor response in these patients than similar stimuli produced in normal subjects.

The normal subjects required an extremely painful stimulus to cause considerable vasoconstriction. The paraplegic patients developed vaso-

constriction in both the stimulated and contralateral limb without experiencing pain. The spinal cord below the level of transection can act as a reflex center for vasomotor activity if the lesion is above the sympathetic outflow to the limb.

Paraplegic patients demonstrate a relative instability of the cardiovascular system. It appears that the vasomotor functions readjust with difficulty to stimulation below the level of the lesion.

Fractures of the Hip

C. B. Larson (Department of Orthopedic Surgery, College of Medicine, State University of Iowa, Iowa City), A. J. NURSING, 58: 1558-1560, November 1958

Although the clinical signs and methods of reduction are the same for femoral neck and intertrochanteric fractures, these fractures continue to differ in respect to the patient's age, method of onset, rate of healing, possible resultant deformities, and mortality rate.

A femoral neck fracture is called an intracapsular fracture because the femoral neck is within the joint capsule. Likewise, an intertrochanteric fracture is known as extracapsular.

An intracapsular fracture or femoral neck fracture usually occurs in the sixth decade of life as a result of a fall. The diagnostic examination reveals that the affected extremity is held in external rotation, the fractured leg is shorter than the uninjured one, and the greater trochanter can be felt in the buttock. The fracture is reduced by either the Whitman or Leadbetter maneuver. For reduction to be accomplished, traction, internal rotation, and abduction must be performed—and in that order. After reduction, a Smith-Peterson nail is inserted.

An intracapsular fracture is notorious for nonunion because there is no rich blood supply to this area. Aseptic necrosis may result, in which case the femoral head is removed surgically and replaced by a prosthesis. If only nonunion occurs, an intertrochanteric osteotomy is a satisfactory procedure. Although a femoral neck fracture may be slow in healing, the mortality rate is low.

In contrast to femoral neck fractures, intertrochanteric fractures usually occur in the seventh decade of life and are the result of a fall on the hip. Because an intertrochanteric fracture occurs in a region richly supplied with blood nonunion is rare, but a varus deformity may result because of shearing force on the femur.

One current method of treatment is the use of a Smith-Peterson nail and a Thornton plate attached along the shaft of the femur. Newer methods of treatment are directed toward immobilization of the fracture plus more mobility of the patient in order to reduce the mortality rate which until recent medical and surgical developments was 50 per cent for intertrochanteric fractures.

In summary, we see that femoral neck fractures and intertrochanteric fractures differ in many ways and this is an important consideration in treatment.

Femoral Neck Fractures

1. Sixth decade of life
2. Indirect trauma
3. Nonunion
4. Aseptic necrosis
5. Low mortality rate

Intertrochanteric Fractures

1. Seventh decade of life
2. Direct trauma
3. Varus deformity
4. High mortality rate

Rehabilitation on a General Medical Ward

H. N. Willard, H. Wick, J. Pemberton, H. Darling (Cornell University Medical School, Ithaca, N. Y.) N. ENGLAND J. M., 259: 1112-1114, Dec. 4, 1958

Rehabilitation is defined as the process of assisting the person with a handicap to realize his potentials and goals, physically, mentally, socially, and economically.

The purpose of this study was to determine if there was an actual need on a general medical ward for treatment that focuses on rehabilitation.

All admissions to a general medical ward of a teaching hospital in New York City between the periods from March 1952 to March 1953 were included in the study. Follow-up examinations were carried out between October 1954 and May 1955. Of 309 original admissions 96 were included in the follow-up study. The study group was examined to learn if classic medical care had been adequate or if additional services were needed.

Of the 96 living patients studied 33 were well, 42 had shown no improvement, and 21 were worse. The patients who had remained well did not require rehabilitative services. These services would have been of little benefit to the patients who were worse, due to the progression of the disease. The third group offered the most hope for rehabilitative services. It appeared that the balance between sickness and health cannot be improved by treatment of the disease alone, but that consideration of the patient's environment and residual assets seemed necessary.

If this case group who might benefit from rehabilitative services were recognized during the hospital course, optimal long term results might be expected.

Observations on the Blood Vessels of the Spinal Cord and Their Responses to Motor Activity

J. N. Blau and G. Rushworth (Boston City Hospital, Boston, Mass.) BRAIN LOND., 81: 354-363, September 1958

An increase in the metabolic rate of an organ with activity accompanied by local vasodilatation and increased blood flow is a well established physiological principle. Tests to apply this principle to the spinal cord, however, have been difficult since the cord draws its arterial supply from many different levels and returns its venous blood in an equally complex manner.

A study of changes in cord circulation as a result of activity was conducted by eliciting single shocks to one hindlimb of anesthetized mice. The two sides of the cord were then compared as to size and density of blood vessels and the findings related to changes in motor activity. It was discovered that the circulation of the spinal cord behaves in a manner typical of any actively working organ.

The results of this study suggest that vascular dilatation and increased density of vessels is localized to the homolateral region of the spinal cord segments activated. Duration of exercise was not a proven factor. The lumbar area of the cord increased in blood vessel density more than the cervical region.

Clinically, these findings may explain the feeling expressed by patients with peripheral vascular disease of "heaviness" and weakness of the lower limbs, progressing in intensity during walking but recovering after rest. The improvement in spas-

tic paraplegia after limited amount of exercise and its worsening after undue fatigue is also suggestive of the influence of vascular factors acting on a neural mechanism.

It seems probable that localization of poliomyelitis by trauma and by exercise to certain regions of the cord occurs because of increased local vascularity of the cord, with dilatation and possibly an increased permeability of the blood vessels in the viremic stage of the disease. This may also help to explain the relationship between the localization of the paralysis and severe exercise performed during the preparalytic stage and the fact that muscles performing the greatest mechanical work are most commonly affected by poliomyelitis.

Physical Conditioning Program for Asthmatic Children

M. S. Scherr and Lawrence Frankel (803 Atlas Bldg, Charleston, W. Va.) J. AM. M. ASS., 168: 1996-2000, Dec. 13, 1958

Supervised respiratory and physical exercises have been utilized for many years as a means of improving respiration in patients who have bronchial asthma. Most workers, however, have concentrated on respiratory exercises alone. When the situation of repeated suppression of physical exercise occurs in asthmatic children a lifetime pattern may be set which may prevent the patient from participating in physical activities even when he is free from asthma. The patient is thus deprived of initiative and confidence.

In order to break this pattern a program of physical activities was developed. The experience described here involved 25 children under active treatment for bronchial asthma. A broad range of activities was found possible, from basic breathing technics and postural exercises to swimming and self defense. Emphasis was placed on personal accomplishment rather than competition with the other children. Parents were excluded from the first few sessions with each child until the child was able to master each of the technics presented to him. This is a partial, temporary, form of the practice of "parentectomy" as advocated by the Jewish National Home for Asthmatic Children, Denver.

Proper allergy management of bronchial asthma combined with a proper physical program designed for the individual child has given beneficial results to the children both in combating the disease and in improving personality adjustment.

Analysis of Eighty-Six Cases of Intertrochanteric Fracture of the Femur Treated Conservatively

L. O. Litton and C. E. Workman (University of Kansas Medical Center, Kansas City, Kansas), AM. J. SURG., 96: 660-662, November 1958

The authors discuss the treatment of intertrochanteric fractures of the femur by conservative methods. This is not an end result study but is a study of hospital mortality and morbidity.

The average age of the women in this series was 75.83 years. The average of the men was 74.16 years. There were 29 men and 57 women. Most of these patients because of their age had associated conditions at the time of admission.

The conservative management of this fracture is more time consuming than if the fracture is openly reduced and fixed. It requires strict attention to the patient as a whole, and associated diseases should be immediately and vigorously treated.

The authors believe, based on an analysis of these cases, that this method supplements operative treatment and is occasionally indicated as the treatment of choice.

Whiplash Injuries

Emil Setetz (405 N. Bedford Drive, Beverly Hills, Calif.) J. AM. M. ASS., 168: 1750-1755, Nov. 29, 1958

The collision of automobiles generally results in either acute flexion or severe hyperextension of the passenger's neck, depending on the direction of the impact. In order to help properly with this problem, we must change our basic concept of this injury, for it is not a direct injury to bony architecture and soft muscle structures alone. Direct trauma results in injury to the spinal accessory nerve and to the roots of the cervical nerves as well. In addition, there are vasomotor disturbances resulting directly from damage to the vertebral arteries and to nerve fibers that accompany these arteries in their course through the foramina transversaria. The result is a varied yet definite syndrome of neurological and neurovascular troubles, which can be called the "craniocervical syndrome."

The origin of the pain and disturbed function lies in the involvement of various cervical nerve roots (especially the second), the spinal accessory nerve and the cervical autonomic nerve, including the vertebral nerve, and in the transient obstruction or compression of the vertebral artery. The persistent spasm of the trapezius and sternomastoid muscles is due, not to primary injury to the muscles but to traction injury to the delicate filaments of origin of the spinal accessory nerve.

If the blood vessel wall has been traumatized during the injury or the vertebral nerve has been irritated, vasospasm persists. The only effective measures for tiding over this stage of injury lie in adequate physical therapy. Treatment must be started early and by someone expertly trained in physical therapy and rehabilitation. While therapy naturally varies to suit the individual need, it consists primarily of local heat in the form of hot wet packs and cervical traction, followed by gentle massage and manual rotation. Delay or faulty treatment leads to adhesions and scarring. An early, effective plan of treatment generally obviates the danger of surgical and psychiatric complications.

Mechanism of Denial in Physical Disabilities

Saul H. Fisher (Institute of Physical Medicine and Rehabilitation, New York Hospital-Bellevue Medical Center) A.M.A. ARCH. NEUR. PSYCHIAT., 80: 782-784, December 1958

Denial as a basic defense mechanism of physically disabled persons has been apparent to the medical profession since the late nineteenth century. Most reports have been concerned with the brain damaged, even though interest has been manifested in amputees, paraplegics, and others.

Three cases of denial of physical disability are discussed. In each case the secure denial mechanism was broken through by visual apparatus. One patient, supposedly well adjusted to her disability, was thrown into a state of depression after seeing movies of herself. Two other patients reported to a rehabilitation center for help when they saw themselves in full length mirrors. This realistic view of themselves so

disturbed their mental attitude that they too went into a state of depression. After breaking through this denial, all three patients responded to psychotherapy and were successful in their rehabilitation goals.

The Problem Back

John E. Kirkpatrick (516 Sutter St., San Francisco, Calif.), J. AM. M. Ass., 168: 1864-1866, Dec. 6, 1958

Pain in the back is the most common single reason given for occupational disability, and it is generally ascribed to actual injury to the vertebral column. The workman does not have to have any witnesses; he may neglect to report an occurrence to his employer, or he may think back to some indefinite date within one year to establish the basis for a claim of a work injury. None of the rheumatic diseases—fibrositis, myositis, bursitis, gout, rheumatoid arthritis, and osteoarthritis—have ever been created by slight or severe mechanical trauma in experimental animals or in human beings. Many improbable medical decisions have been made by lay commissions in ignorance or disregard of this fact. These diseases are associated with dysfunction of the reticuloendothelial system.

It is believed that closer study and more precise diagnosis of back complaints will alter the statistics in this branch of occupational medicine.

Electromyographic Studies on Patients with Chronic Headaches

H. A. Dickel, H. H. Dixon, W. Stoner and J. G. Shanklin (610 Medical-Dental Bldg., Portland, Oregon), NORTHWEST M., 57: 1458-1462, November 1958

Electromyographic studies on patients with chronic headaches show that neuromuscular hypertension, fatigue and spasm are major factors in producing symptoms. The treatment of these patients includes the use of pharmacologic agents, physical therapy, and psychotherapy. Successful results have been obtained with muscle stretching, massage, contrast baths, rhythmic stimulation with faradic current, and the teaching of relaxation technics. An essential part of the treatment lies in teaching the patient the physiological basis of his symptoms and how he can correct them. Electromyography allows the patient to see the realistic nature of his symptoms and to judge the progress he is making.

Our Abstracters for March

We are indebted to the following Association members for their assistance in the preparation of the abstracts in this issue:

Rachel Adams	Dorothy Kemske
Molly Brown	Miriam Partridge
Ethel Coeling	Corrine Strong
Jean Cuthbertson	Jean Thibaut
Charlotte Goldberg	Virginia Wirtz

Book Reviews . . . . .

From Witchcraft to World Health. *By S. Leff, M.D., D.P.H., Barrister at Law, and Vera Leff. Cloth; Price $4.50. Pp. 236; illus. Macmillan Co., New York, 1957.*

Dr. Leff is at present, Medical Officer of Health to a large metropolitan borough in England, and his medical experience includes general practice, hospital, tuberculosis and industrial work. He and his wife, co-author Vera Leff, have traveled widely to study health services in other countries.

This is a story of man in his search for health and how by his struggle through the ages the art and skill of medicine have been developed. In the introduction to the book the authors describe this as, "how mankind has made medicine."

The presentation follows the usual form of medical histories by considering the study of the early Egyptian, Greek, and Roman medicine, the conditions during the Dark Ages, and the reawakening of science and medicine in the Renaissance. In discussing the period frequently termed the "Modern Age," the authors have devoted two chapters to what they consider the Industrial Revolution and one to the Twentieth Century. The events in the general history of the world and their influence on the state of man's health are discussed, with great emphasis being placed upon man's social status and the importance of prevention of disease.

The postscript of the book is optomistic in tone as the authors say: "the story of man and his struggle for health up to the present time is only a beginning in comparison with the promise the future holds." They believe the enlightened people today know what the true purpose of medicine should be, and that this is well expressed in the First Constitution of the World Health Organization: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" and also that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."

The book includes a useful index and the illustrations are well done. The authors give credit to the Wellcome Historical Medical Library for assistance in choosing and making available many of these.

This is a well written history of man's fight to save life and should be of interest to the layman as well as to all those in the profession of medicine and health.

Polymyositis. *By John N. Walton, M.D., M.R.C.P., First Assistant in Neurology, Kings College University of Durham in the Royal Victoria Infirmary, New Castle on Tyne; and Raymond D. Adams, M.D., Bullard Professor of Neuropathology, Harvard University, Cambridge, Mass. Cloth; price $7.00. Pp. 270; illus. Williams & Wilkins Company, Baltimore, 1958.*

Polymyositis has in recent years been much in the literature under different names, such as dermatomyositis, collagen disease, and many others. The literature has been both voluminous and confusing. The authors of this fairly compact volume have searched the literature, analyzed and digested it and compared their findings with clinical data from 40 cases of their own. They have succeeded as well as is presently possible and have provided a basis on which future work in the field can progress.

The authors divide the disease in four groups; the first deals with the disease limited to the muscles, the second with evidence or associated collagen disease, the third with severe collagen disease with muscular weakness of a comparatively minor degree, and the fourth contains polymyositis or dermatomyositis in association with malignant disease. Prognosis is much better in the group 1 and 2 cases. In groups 2 and 3 prognosis is better in children than in adults. A significant proportion of cases respond to steroid

therapy, others do not. The importance of physical therapy is mentioned but not discussed in detail.

Among research studies considerable attention is paid to electromyography. The authors point out that fibrillation potentials are found without evidence of nerve changes. They raise the important question as to how characteristic fibrillation potentials really are in indicating denervation. To many with experience in electromyography this statement will not come as a surprise. The authors also point out that the clinical "motor unit" is by no means a physiological concept. Generally the evaluation of electromyography is levelheaded and a welcome relief from some of the exaggerated claims made for it.

To summarize, this is an excellent and timely book. The case histories of all 40 cases are appended and there is an extensive bibliography.

An Atlas of Muscle Pathology in Neuromuscular Diseases. *By J. Godwin Greenfield, M.D., G. Milton Shy, M.D., Ellsworth C. Alvord, Jr., M.D., and Leonard Berg, M.D. From the Department of Health, Education and Welfare, Public Health Service; the National Institutes of Health; the National Institute of Neurological Diseases and Blindness, Bethesda, Maryland. Photomicrographs by Fred H. Meiller. Cloth; price $9.00. Pp. 104; illus. Williams & Wilkins, Baltimore, 1957.*

This monograph is one of the best attempts in recent years to make order out of the chaotic problem of muscle histopathology. It is called an "Atlas" but is by no means an encyclopedic work. In the first part of the book the changes are described in various elements of muscle tissue, such as structural changes in muscle fibers, nuclei, fiber size, interstitial tissue and so on. Efforts are made to delimit normal from pathological. In the second part of the book the clinical syndromes are briefly defined and the common features are described. There is no attempt to make fantastic claims for the accuracy of diagnosis by histopathology. The authors rightly point out the frequent difficulties in resolving the discrepancies between the various forms of muscular dystrophy and myositis. They make this refreshing statement. "At times one wonders whether the muscle biopsy is really helpful, but this pessimistic view cannot be long maintained; one cannot help but feel that further study of more cases will disclose the answers."

The format of this book deserves special mention. It is brief and simple, and the language is unequivocal. The photomicrographs are among the best I have seen, and are credited to Fred M. Meiller.

This book is highly recommended to every pathologist and clinical neurologist.

Orthopedic Diseases: Physiology-Pathology-Radiology. *By Ernest Aegerter, M.D., Professor of Pathology and Director of the Department of Pethology, Temple University Medical Center and School of Medicine; Professor of Orthopedic Pathology, University of Pennsylvania Graduate School of Medicine; Chief in Pathology, Philadelphia General Hospital; Consultant in Pathology, Frankford Hospital, United States Naval Hospital and Veterans Administration Hospitals, Philadelphia.* And *John A. Kirkpatrick, Jr., M.D., Radiologist, St. Christopher's Hospital for Children; Assistant Professor of Radiology, Temple University Medical Center; Radiology, Children's Heart Hospital; Attending (Radiology), Veterans Administration Hospital, Philadelphia. Cloth; price $12.50. Pp. 588; illus. W. B. Saunders Co., Philadelphia, 1958.*

The material in this text is a compilation of previously published papers, but is so arranged and illustrated, and the material so well discussed as to make it an excellent textbook. Written primarily for clinicians, radiologists, pathologists and the young specialist, it describes the altered morphology and physiology in bone diseases.

The first four chapters serve as a review of anatomy and physiology of the tissues of the skeleton. These are followed by some histology and simple bone radiology. The rest of the book is divided into three sections: Disturbances in Skeletal Development, Disturbances in the Normally Formed Skeleton, and Tumors and Tumor-like Processes. In each section, the disease and its symptoms are described. This is followed by X-ray illustrations and descriptions, as is the microscopy of the disease. Finally, there is a brief discussion of the prognosis.

The X-ray and microscopy illustrations are excellent. This is a fine text for the specialist, and a good reference book for the physical therapist who desires to further his understanding of some orthopedic diseases.

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Chicago 12, Ill.

Dynamics of Interviewing, Theory, Technique and Cases. *By Robert L. Kahn, Ph.D., Program Director of Survey Research Center, University of Michigan; and Charles F. Cannell, Ph.D., Head of Field Staff, Survey Research Center. Cloth; price $7.75. Pp. 368. John Wiley & Sons Inc., New York, 1958.*

The title of this book reveals its purpose and general organization of content which is divided into two parts. The first is devoted to theory and technic, while the second is devoted to cases. Interviewing in this work is interpreted from the standpoint of the goal of obtaining information rather than providing therapy for the client.

To be a successful interviewer requires not only comprehension of psychological forces in an interview situation, but ability to motivate the respondent and skill in formulating questions or probes for information. The theoretical basis of this work is strongly oriented in the Rogerian concept of client centered counseling, which is basically therapeutic in

nature. The psychological concepts are largely those of the late Kurt Lewin whose work is frequently considered to be difficult to read and, consequently, the casual reader may find this phase of the book "heavy."

The part of the book devoted to technic will probably be most frequently used by those who are being trained in interviewing, or may be equally useful to one who wishes to improve his skill in this area. The authors have devised a rating scale which should be helpful in making a scientific evaluation of the effectiveness of interviewing technic.

The final section of the book on cases is unique in that it provides several verbatim reports of interviews which were initially recorded on tape. These not only provide a record of the interviewer's questions, and the patient's responses, but it also includes annotations which point out strengths as well as weaknesses of the interviewing procedure. The physical therapist would probably be most interested in the first and last of these interviews as both are medically oriented, one being directed by a physician, the other by a medical social worker.

Those who have undergone training in interviewing in their professional preparation will find that this book provides a refreshing review, while those who were not fortunate enough to receive such training will find that this work offers a new challenge in developing more effective patient relationships.

The reviews published here do not necessarily represent the opinions of the American Physical Therapy Association.

Our Book Reviewers for March

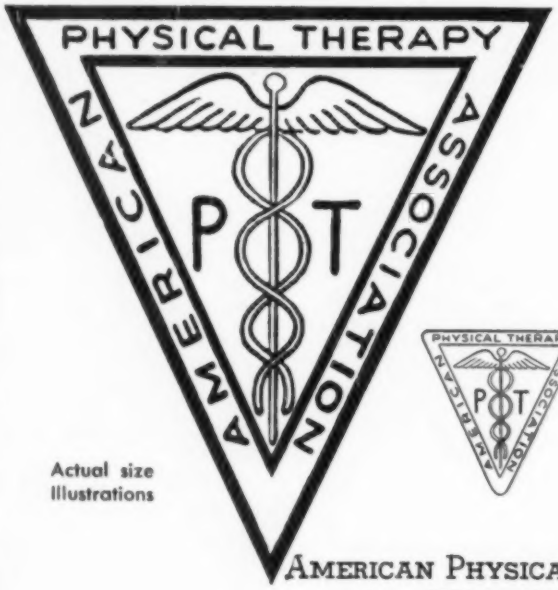
Gertrude Beard, Physical Therapist, Bethany Hospital, Kansas City, Kansas.

H. D. Bouman, M.D., Professor of Physical Medicine, University of Wisconsin Medical School, Madison.

Lee Katz Kaplan, Physical Therapist in Private Practice, West Los Angeles.

Edward Fitting, Ph.D., Administrative Field Representative, Michigan Crippled Children Commission, Lansing.

Irving C. Sherman, M.D., Professor and Chief of the Department of Neurology, Chicago Medical School, Chicago.



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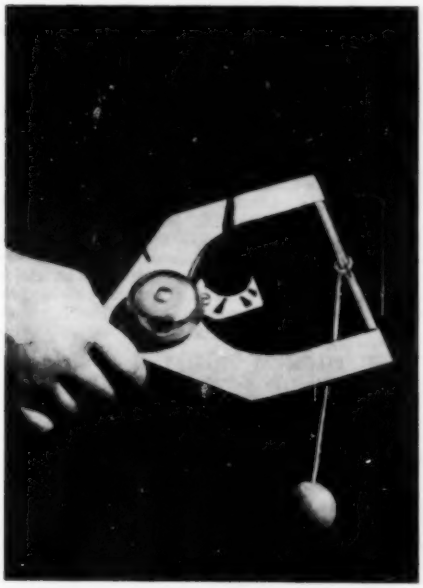
What's New . . . . . .

30. Ring-O Toy



Ring-O is a new kind of skill toy which has the additional attraction of ringing a bell. The "Y"-pronged toy is moved up-and-down or back-and-forth to produce a whirling action. The object of the game is to get the ball to pass through the "Y" space and strike the plastic plate which serves to ring the bell. In group activity, the person who rings the bell the most times is the winner. Ring-O Co.

31. Catalog Supplement

Supplement "B" to Preston Catalog 1058, a fully illustrated 20-page catalog featuring many new and interesting items, has been issued.

Included are Exercise Equipment and Mats, a Traction Frame, Whirlpool Tanks, Standing Bed, Self-Help Devices, Patient Lifters, Incontinent Aids and Occupational Therapy Looms and Kilns. J. A. Preston Corp.

For more information on items write to The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

New items which may be of interest to physical therapists will be mentioned in these pages each month. The accompanying explanations are made by the manufacturers and have not been investigated by the *Physical Therapy Review*.

32. Aquapeutic Bath

Aquapeutic Bath is a portable, two-section hydrotherapy device which is made of textured aluminum with a plastic liner. Weight of the unit is 7 pounds. A pulse generator located at the bottom and center of the divider provides stimulation to all surfaces of the submerged hands or feet. An electronic control permits selection of "pulsation" frequencies, "pulse" amplitude, and temperature. No special installation is required; therefore, the unit is suitable for use in the patient's home or any area of the hospital. Profile, Inc.

Positions Available

IMMEDIATE OPENING for physical therapist to conduct established treatment program for homebound arthritics. Also conduct outpatient clinic weekly. Excellent personnel policies; 2 weeks' vacation. Contact Mrs. Donald Held, Akron Area Chapter Arthritis and Rheumatism Foundation, 326 Locust St., Akron 2, Ohio.

PHYSICAL THERAPIST for 470-bed expanded hospital situated in highly industrial and college community located 60 miles from Philadelphia and 90 miles from New York City. Salary open, liberal personnel policies. Excellent position for qualified person. Apply to R. L. Suck, Manager, St. Luke's Hospital, Bethlehem, Pennsylvania.

STAFF PHYSICAL THERAPIST for progressive department in 655-bed general hospital under supervision of physiatrist. Must b.. eligible for state licensure. Apply Chief Physical Therapist, Janet Singer, Albany Hospital, Albany, N. Y.

WANTED: Registered physical therapist for 200-bed hospital serving an area of 90,000 people; 40-hour week. City located on Lake Huron and St. Clair River, 58 miles north of Detroit. Write Administrator, Port Huron Hospital, Port Huron, Michigan.

WANTED: Qualified physical therapist for well equipped department in a modern 350-bed general hospital. Paid vacation, sick leave, 6 holidays, salary open. Apply H. B. McDougall, R.P.T., St. Rita's Hospital, Lima, Ohio.

WANTED IMMEDIATELY: Two qualified physical therapists for staff position in rapidly expanding orthopaedic clinic. Will consider recent graduates. Department under supervision of physiatrist. Liberal personnel policies. Good starting salary. Contact Arthur E. White, M.D., Anderson Clinic, S. 25th & Army-Navy Drive, Arlington 6, Virginia.

WANTED: FEMALE registered physical therapist for busy office of 2 orthopedic surgeons Los Angeles area. Financial arrangements open. Write Robt B. Portis, M.D., 450 N. Bedford Dr., Beverly Hills, Calif.

GREENVILLE, S. C.: Full time registered physical therapist needed immediately to join present staff of five. Ideal location, working conditions, salary, and benefits. Good medical supervision. Write: R. M. Litaker, Chief Physical Therapist, Greenville General Hospital, Greenville, S. C.

EXPANSION PROGRAM necessitates increasing present physical therapy staff of 8. Three full time physiatrists provide medical supervision. Excellent starting salary and fringe benefits commensurate with experience. Educational opportunities, both clinical and didactic, are excellent. Good opportunities for advancement. Overtime paid in excess of 5-day 40-hour work week. Write Director of Medical Services, Institute of Physical Medicine and Rehabilitation, 619 Glen Oak Avenue, Peoria, Illinois.

PHYSICAL THERAPIST: Eligible for Calif. registration, (female) in a newly developing program. Salary range: $4,836-$6,036, depending on qualifications and experience. Auto required. Reimbursement for business mileage; 40-hour week. Vacation 15 days after one year; 20 days after second year. Liberal holiday and sick leave. Contact Florence Torke, Executive Director, Visiting Nurse Association of Pasadena, 585 South Marengo Ave., Pasadena, Calif.

IMMEDIATE OPENING: Registered female physical therapist for 664-bed general hospital expanding to 820 beds. Prefer recent graduate who wants opportunity for professional growth. Salary open. Liberal benefits. Apply Personnel Director, Methodist Hospital, Indianapolis 7, Indiana.

Registered Physical Therapist, new graduate, experience not necessary. Position now available. Salary open. Write to: Dr. Dwight Frost, Physical Medicine and Rehabilitation, University of Nebraska College of Medicine, 42nd and Dewey Ave., Omaha, Nebraska.

WANTED: PHYSICAL THERAPIST to take charge of well equipped therapy department in a 135-bed general hospital in rural area of Delaware. Applicant should be eligible for registration in Delaware. Salary commensurate with experience. Apply Adm. Milford Memorial Hospital, Milford, Delaware.

Wanted FEMALE REGISTERED Physical Therapist for well known, modernly equipped 70-bed Orthopedic Children's Hospital to increase existing staff. Possibility of heading the Department in near future if qualified. State Salary expected. Excellent personnel policies and benefits. Accommodations available in nurses' home. For further information contact Mrs. Helen P. Haese, Superintendent, Scottish Rite Hospital, 2201 Welborn, Dallas 19, Texas.

REGISTERED STAFF PHYSICAL THERAPIST for 140-bed hospital. Emphasis on rehabilitating children. Valuable experience in muscle testing; clinical teaching; outpatient program. Salary and personnel policies furnished on request. Apply Physical Therapy Director, N. C. Orthopedic Hospital, Gastonia, N. C.

STAFF OPENING: Work with orthopedic conditions in private clinic separated from physicians' offices. Treatments closely coordinated with referring physicians. Salary open. Write: Philip Riddleberger, Director, The Physical Therapy Center, 2220 Jay Street, Sacramento 16, California.

STAFF PHYSICAL THERAPIST: For active and varied in- and outpatient service. Forty-hour week; two weeks' vacation; 7 paid holidays; sick leave; retirement and medical benefits. California registration and APTA membership required. For additional information write: Miss E. Thomson, Chief Physical Therapist, Southern California Permanente Medical Group, Fontana, California.

Positions Available

Staff Physical Therapist, female, for general outpatient program. Five-day week, liberal vacation, paid holiday and sick time. Social Security. Apply: Junior Service League Orthopedic Center, 1219 Dunn Avenue, DAYTONA BEACH, Florida.

PHYSICAL THERAPIST: In Hospital-School for rehabilitation of children with orthopedic handicaps. Complete interesting program. Good salary, merit increases. Annual paid vacation, sick leave, excellent retirement plan. Write to Director of Physical Therapy, Illinois Children's Hospital-School, 2551 N. Clark Street, Chicago 14, Illinois.

GRADUATES OF APPROVED SCHOOLS FOR PHYSICAL THERAPISTS. California has positions open in State Hospitals, the Veterans Home and special schools for handicapped children. Require registration with California Medical Board. Liberal employee benefits and retirement plan. No experience needed to start at $415 in mental hospitals and Veterans Home; promotional opportunities to $530. Streamlined examinations twice a month in San Francisco and Los Angeles. Write State Personnel Board, 801 Capitol Avenue, PT 71, Sacramento, California.

OPENING for staff R.P.T. June 1 in well equipped dept. of a 340-bed general hospital located in college town of 85,000. Salary dependent on experience, with yearly increments. Liberal employee benefits. Write: Charles Peterson, R.P.T., Rex Hospital, Raleigh, N. C.

CHIEF PHYSICAL THERAPIST—male or female, 1,900-bed mental hospital in college town, salary $415-440-465. Available low rental rooms on grounds, low cost meals in cafeteria, certain laundry furnished, excellent personnel policies, 44-hour week. Apply Mrs. Thelma Brewer, Personnel Supervisor, State Hospital, Jamestown, North Dakota.

QUALIFIED PHYSICAL THERAPIST for staff position in a 410-bed hospital. Completely remodeled and well equipped department, wide variety of cases divided equally between hospital and outpatient. Forty hour week, paid vacation, sick leave and holidays; salary open, depending upon qualifications and experience. Excellent opportunity in a growing community located in the Valley of the Sun, winter capitol of the Southwest. Apply Personnel Director, Good Samaritan Hospital, Phoenix, Arizona.

OPENING for experienced registered physical therapist (female) June 15th in private Orthopedic Clinic. Salary $400.00 per month plus yearly bonus; 35-hr. week. Two weeks' paid vacation. Contact Graybill-Wilson Orthopedic Clinic, 1202 Arlington, Lawton, Oklahoma.

Opening for Staff Physical Therapist in outpatient Rehabilitation Center directed by physiatrist. Wide variety of treatment program. Coordinated physical, occupational, speech-hearing, psychological, vocational, and social services. Excellent personnel policies; up to 3 weeks' vacation. Contact R. A. Silvanik, Administrator, The Rehabilitation Center of Summit County, Inc., 326 Locust Street, Akron 2, Ohio.

STAFF PHYSICAL THERAPIST, no experience necessary. Position available February 15, 1959 in new department, well-equipped, located in the new wing of an 800-bed general hospital. Forty-hr. week, 3 weeks paid vacation, laundry of uniforms, sick leave. Starting salary $4200.00. Medical Director of Department is orthopedist in advisory capacity. Miss Irene Bush, M.A., R.P.T., Head of P.T. Department, Hillcrest Medical Center, Tulsa, Oklahoma.

STAFF PHYSICAL THERAPIST (Female)—Registered, for well equipped department in 200-bed general hospital. 3 P. T.'s in dept.; 40-hour week, 4 weeks' vacation, increments; Blue Cross, laundry, full maintenance provided. Apply: Miss C. J. Gerrity, Chief P. T., Princeton Hospital, Princeton, New Jersey.

STAFF PHYSICAL THERAPIST for well established department in 400-bed general hospital. Forty-hr. work week. Salary open. Director-Physiatrist. Apply: Director of Physical Medicine Dept., Mt. Carmel Hospital, Columbus, Ohio.

Staff therapist and assistant supervisor. General Medical and Surgical Cases, in- and outpatient service. Opportunity for varied experience. Salary dependent on experience; vacation, sick leave and social security benefits. For further information write to: Dr. Harry L. Chant, The Johns Hopkins Hospital, Baltimore 5, Md.

STAFF PHYSICAL THERAPIST—recent graduate acceptable. In-service training. Salary commensurate with experience. Liberal vacation, holidays and sick leave; 37½ hour week. Apply: Physical Medicine and Rehabilitation Dept., Mount Sinai Hospital, New York City. TRafalgar 6-1000, Ext. 317 or 318.

(continued on next page)

Classified WANT-ADS

RATES

The rate per insertion is $1.00 per line. Typewrite your advertisement carefully and count 50 characters and spaces per line.

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IMPORTANT

It is understood and agreed that the publisher shall have the right to reject or change the wording of any advertisement which in the opinion of the Editorial Board shall not be in agreement with the ethical standing of this publication.

Positions Available

STAFF PHYSICAL THERAPIST for Cerebral Palsy School-Clinic of Atlanta, Inc. Day School program, clinic and outpatient services for 100 children ranging in age from 18 months to 18 years. Five-day work week, public school holidays, 2 weeks' summer vacation, sick leave, salary open. Send qualifications and work summary to: Mrs. Harold M. Seymour, Administrator, The Cerebral Palsy School-Clinic of Atlanta, Inc., Atlanta 7, Georgia.

PHYSICAL THERAPIST—CHILDREN'S MEDICAL CENTER. Starting salary $4,200 to $4,500 dependent on experience: Contractual increments, $30 per month first year, $20 thereafter to top of range ($6,000)—merit beyond this. Personnel policies include: 5-day week, 2 weeks' paid vacation per year, 7 paid holidays and 2 weeks' paid sick leave. Excellent physical therapy and hydrotherapy area designed by head of department. Variety of diagnoses are treated utilizing medical, paramedical and psychological evaluations—all available at the Children's Medical Center, Tulsa, Oklahoma.

STAFF REGISTERED physical therapist for well equipped department in 325-bed community general hospital; Crippled Children's Bureau affiliation. Excellent working conditions and personnel policies. Attractive salary. Prefer female therapist. Apply Personnel Office, Roanoke Memorial Hospital, Roanoke, Virginia.

Physical Therapist for field services in Westchester County New York Department of Health. Work with orthopedists, physiatrists, and general practitioners in care of patients in home and clinic. Treatments for all age groups with varied disabilities. Salary $4,230 to $5,430; 35 hour week. Social security and pension. Apply Miss Doris Krumlauf, Supervising Physical Therapist, Westchester County Department of Health, White Plains, New York. Phone WH 9-1300 EXT. 456.

PHYSICAL THERAPIST: Experienced. Wanted for active, well equipped department in a 154-bed hospital with expansion program under way. Pleasant surroundings in north suburb of Chicago. Modern housing. Recreational facilities and cultural activities available. Good salary, 40-hour week, varied cases treated. Contact Personnel Director, Highland Park Hospital, Highland Park, Illinois.

REGISTERED PHYSICAL THERAPIST (Female). For modern industrial hospital, working under direction of orthopedist. Attractive starting salary, periodic increases. Excellent company benefits; 5-day week. Uniforms furnished. Write Dr. J. F. McCahan, Medical Director, Western Electric Co., Hawthorne Station, Chicago 23, Illinois.

2 Physical Therapists needed for expanding Department. Good work conditions in a newly constructed treatment center; 5-day week, paid vacation, sick leave, retirement benefits, salary starts at $380. Experience required, annual increases. Wonderful recreational opportunities in Puget Sound country! Write to Miss Lila Scott, Supervising Therapist, Department of Labor and Industries Rehabilitation Center, 4730 32nd Avenue South, Seattle 8, Washington.

WANTED: PHYSICAL THERAPIST (female) for full or part-time work in orthopedic surgeon's office. Write to Daniel B. Eck, M.D., 144 South Harrison Street, East Orange, N. J.

PHYSICAL THERAPIST: 11-man Clinic, Department fully equipped. Salary open. Forty-hour week, vacation, sick leave, insurance. Variety of patients, largely industrial accidents. Apply: Sault Polyclinic, 300 Court St., Sault Ste Marie, Michigan.

STAFF PHYSICAL THERAPIST: State Crippled Children's Program, P. T. Clinics held in various health departments. Merit system status, retirement benefits, liberal vacation and sick leave. Salary range $4512-5640. Travel expenses paid. Responsible, challenging and secure position. Write: Director of Personnel, State Health Department, Richmond, Virginia.

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325-bed general university hospital affiliation with medical school and nursing school in suburban Atlanta, Georgia. Department of Physical Medicine under direction of Dr. Robert Bennett. Air-conditioned. Predominantly neuromuscular cases with pool for underwater therapy. Excellent benefits including 2-3 weeks vacation, sick leave, Social Security, life insurance, hospitalization insurance and other benefits. Starting salary dependent upon experience of applicant; 40-hour week. Must be registered with the APTA and the Registry. For further information or application contact Personnel Office, Room 203 Administration Building, Emory University, Atlanta 22, Georgia.

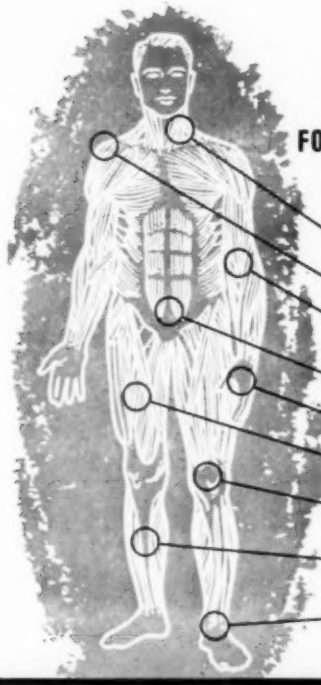
Bethany Hospital, Kansas City, Kansas. Opening for physical therapist; 250-bed general hospital completing enlarged department. In- and outpatients, adults and children. Salary open. Contact Mrs. Mary Alderman, Chief Physical Therapist, Bethany Hospital, 51 North 12th, Kansas City, Kansas.

QUALIFIED PHYSICAL THERAPIST for outpatient cerebral palsy treatment center. Liberal salary. Two months' vacation, sick leave. Liberal personnel policy. Contact Robert Schlitt, Director, Peninsula Cerebral Palsy Training Center, 901-24th Street, Newport News, Virginia.

IMMEDIATE OPENING: For qualified physical therapist, 500 bed general hospital, large well equipped department, receiving both in- and outpatients. Excellent personnel policy. Contact Melvin G. Carson II, L. P. T., St. Joseph Infirmary, Louisville, Kentucky.

Wanted: Female Physical Therapist, recent graduate. Excellent salary, Orthopedic office—will spend 2 days in State Convalescent Hospital—will be pioneer as no Physical Therapist is in City and department should expand rapidly. Write to Dr. G. R. Dawson, Jr., 251 W. Palmetto Street, Florence, S.C.

WANTED: QUALIFIED PHYSICAL THERAPISTS, 500-bed, modern, general chronic disease hospital, salary dependent on experience; liberal vacations and sick leave benefits. Lunches provided. Apply Executive Director, St. Barnabas Hospital, New York 57, New York.



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